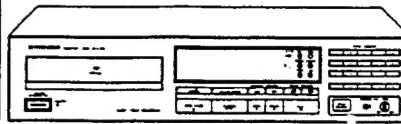


Service Manual



● PD-6700 TYPE

ORDER NO.
ARP2193

COMPACT DISC PLAYER

PD-5700

Type	Model					Power Requirement.	Remarks
	PD-6700	PD-6700-S	PD-5700	PD-5700-S	PD-4700		
KU	○	—	○	—	○	AC 120V only	
KC	○	—	○	—	○	AC 120V only	
KUXJ	○	—	○	—	○	AC 120V only	
KCXJ	○	—	○	—	○	AC 120V only	
SD	—	—	○	—	○	AC 110V, 120V - 127V, 220V, 240V (switchable)	
UPW	—	—	○	—	○	AC 230V - 240V	
MEMXJ	○	—	○	—	○	AC 220V - 230V	
MEWMXJ	—	○	—	○	—	AC 220V - 230V	
UBXJ	○	—	○	—	○	AC 230V - 240V	

- This manual is applicable to the PD-6700/KU, KC, KUXJ, KCXJ, PD-5700/KU, KC, KUXJ, KCXJ, PD-4700/KU, KC, KUXJ and KCXJ types.
- As to the PD-6700/KC, KUXJ and KCXJ types, refer to pages 76.
- As to the PD-5700/KC, KUXJ and KCXJ types, refer to pages 76.
- As to the PD-4700/KC, KUXJ and KCXJ types, refer to pages 77.
- As to the other types, refer to applicable service manuals.
- Ce manuel pour le service comprend les explications de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan

PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.

PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada

PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium

PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

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IFJ MAR. 1991 Printed in Japan

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

1. SAFETY INFORMATION

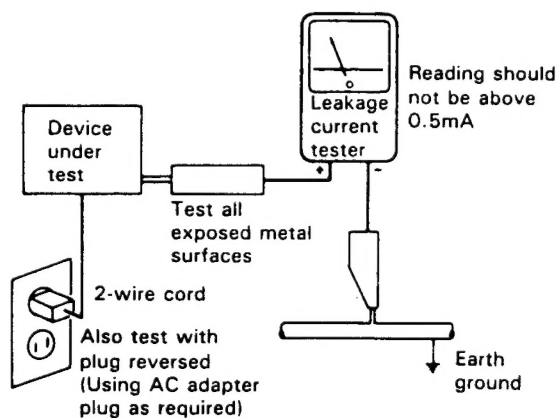
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. DISASSEMBLY

● REMOVING THE BONNET

- ① Remove six screws to the bonnet.
- ② Remove the bonnet by pulling up it in the vertically direction of arrow.

To easily remove the bonnet, pull outward on both sides of the bonnet then pull it diagonally toward the rear of the unit.

Note: If you pull up the rear base of the bonnet to remove it as in the conventional manner, the hooks shown in Fig. 2-1 may be caught and the hooks on the front panel side may be deformed.

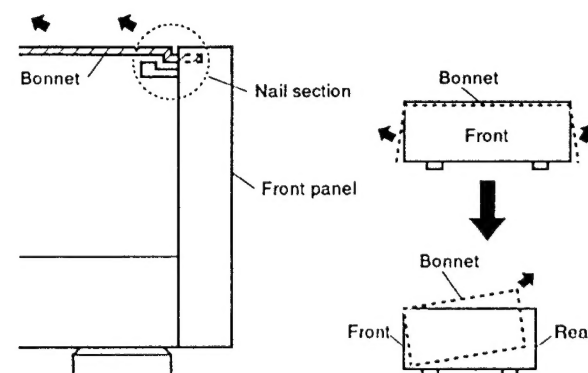


Fig. 2-1

● REMOVING THE TRAY

- ① Turn the POWER switch ON, and open the tray by the OPEN/CLOSE key. (Refer to the Note 1 when opening the tray by hand-operated.)
- ② Pull out the tray slowly by pushing the nail of the tray section from two holes ③ and ④ of the clamber base (Fig. 2-2). (It is necessary to push the nail of the tray section at the front panel portion.)

Note 1: How to open the tray by hand-operated

● REMOVING THE FRONT PANEL

- ① Remove five screws ① (Upper side is two screws and under side is three screws.) to the front panel.
- ② Remove a screw ② to the Headphone board assembly (Fig. 2-2).
- ③ Disconnect two connectors CN351 and CN401 from the Mother board assembly (Fig. 2-2).
- ④ Remove the front panel and the Headphone board assembly together.

CAUTION: When CN351 is connected and disconnected, be sure to disconnect the AC power cord from the AC outlet. If not, microcomputer (IC351) may be destroyed.

- ① Turn the gear B slowly in the direction of arrow by ⊖ screwdriver with care not to damage the gear B (Fig. 2-2).
- ② Turn gear B until the tray starts to move in the direction of the OPEN position.
- ③ Move the tray to the OPEN position by hand.

Note: When attaching the tray, be sure attach it when the servo mechanism assembly is in the completely lowered position (when the rack has been moved all the way back). Otherwise, the upward and downward movements of the servo mechanism assembly may not synchronize with the movements of the tray. If the tray has been incorrectly attached, re-attach it as follows.

- ① Remove the tray following Step 2 of "REMOVING THE TRAY".
- ② Move the rack all the way back by hand.
- ③ Install the tray.

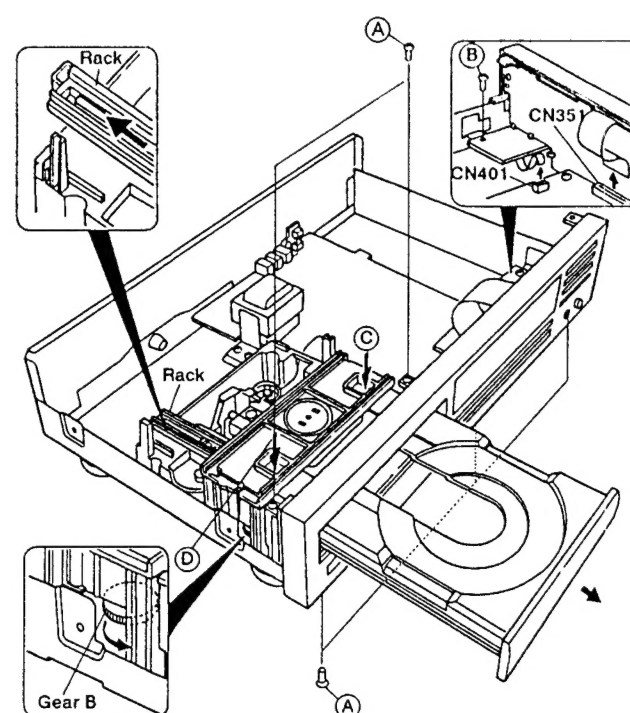


Fig. 2-2

● REMOVING THE SERVO MECHANISM ASSEMBLY

- ① Remove the tray. (Refer to the "REMOVING THE TRAY".)
- ② Remove the four screws ① and one screw ② with the servo mechanism assembly lowered (to the tray-open position) (Fig. 2-3).
- ③ To move the rack by hand, gear A and the gear section of the rack must be engaged at section ③ (see Fig. 2-3). Otherwise, the rack may not move. In this case, move gear B with a ⊖ screwdriver from the side and fit gear B and the gear section of the rack at the engaging section ③.

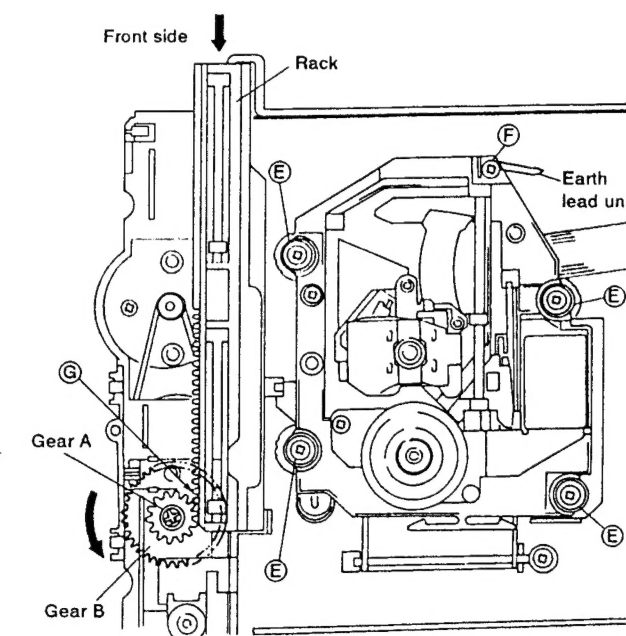


Fig. 2-3

- ④ Push the slide bushing at the front left with a thin implement such as a ⊖ screwdriver (Fig. 2-4).
- ⑤ Pull up the rear side H of the servo mechanism assembly. (Arrow ① in Fig. 2-4)
- ⑥ To release the engagement at section ① of the servo mechanism assembly, turn the assembly counterclockwise on the slide bushing ① (Arrow ② in Fig. 2-4).

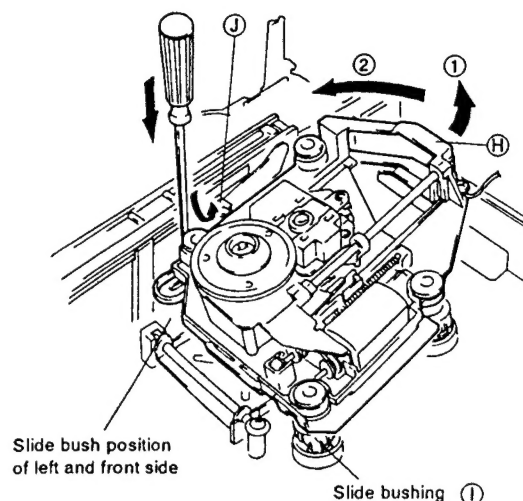


Fig. 2-4

● REMOVING THE SWING LEVER

- ① Move the rack manually so that section ① of the swing lever reaches the inclined part ① of a groove on the rack. (see Fig. 2-5)
- ② Remove screw ② which holds the shaft.
- ③ Slightly pull up the right side of the shaft (the side of screw ②) and pull the shaft outward in the direction of arrow ③.

● REMOVING THE SLIDE BUSHING

- ① Compress the slide bushing from three directions as shown in Fig. 2-5.
- ② Remove the bushing by turning it in the direction of the arrow ④.

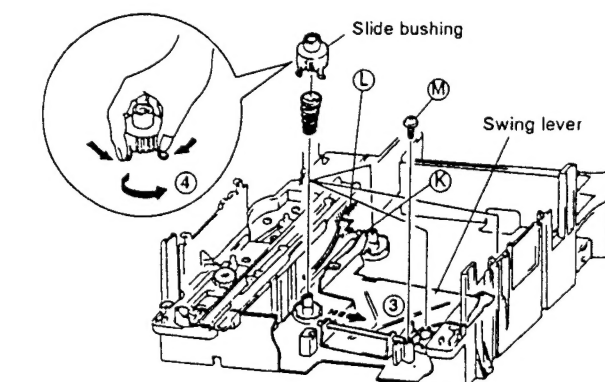
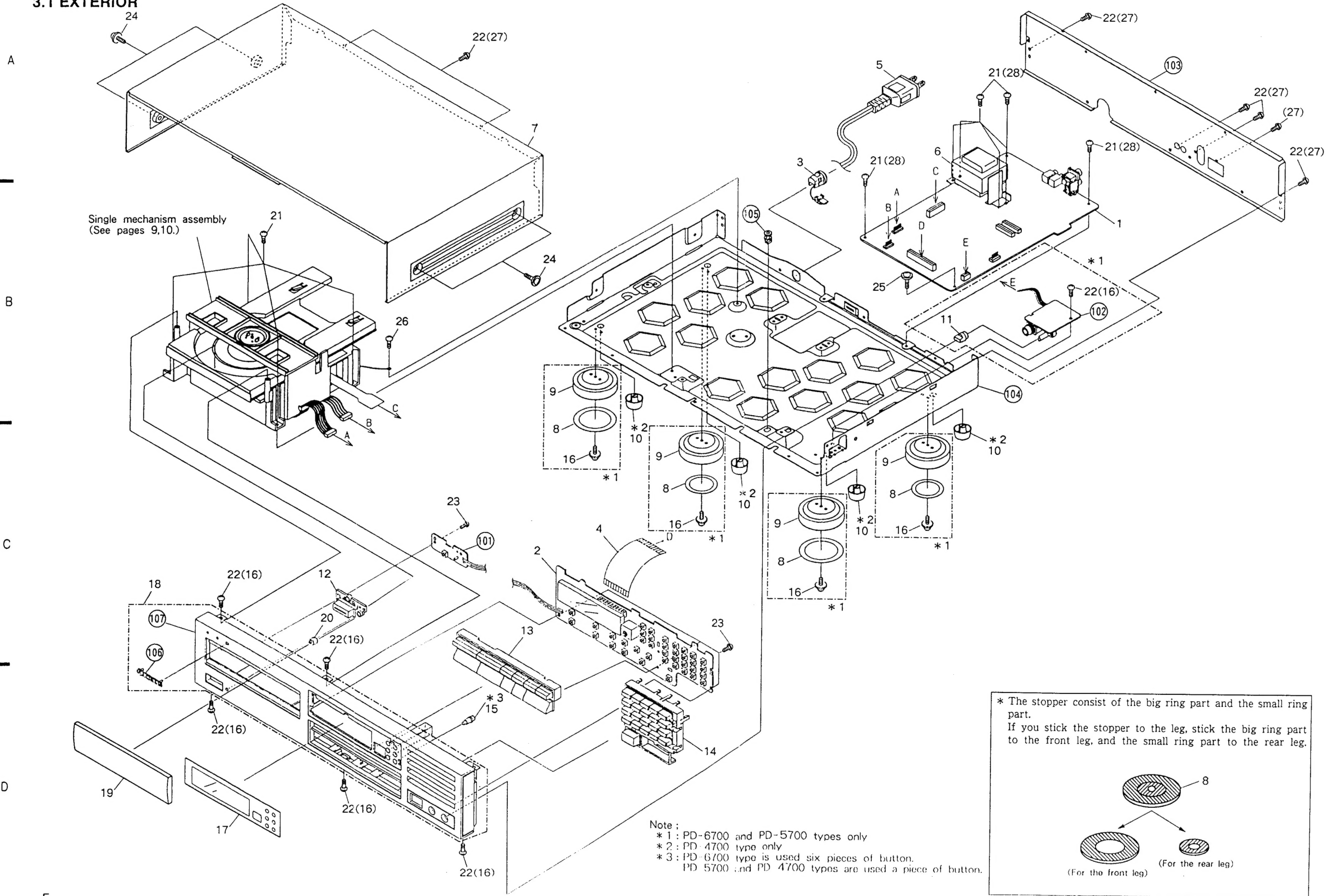


Fig. 2-5

3. EXPLODED VIEWS AND PARTS LIST

3.1 EXTERIOR



6

NOTES:

- Parts without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "◎" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Parts List of Exterior Section

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
◎	1	Mother board assembly (PD-6700 type only)	PWM1429	15	Time button B (PD-6700 and PD-5700 types only)	PAC1549	
◎	1	Mother board assembly (PD-5700 type only)	PWM1425	15	Time button A (PD-4700 type only)	PAC1546	
◎	1	Mother board assembly (PD-4700 type only)	PWM1421	16	Screw (PD-6700 type only)	IBZ30P080FCC	
◎	2	Function board assembly (PD-6700 type only)	PWZ2103	17	Display window CK (PD-6700 type only)	PAM1470	
◎	2	Function board assembly (PD-5700 type only)	PWZ2096	17	Display window BK (PD-5700 type only)	PAM1463	
◎	2	Function board assembly (PD-4700 type only)	PWZ2094	17	Display window AK (PD-4700 type only)	PAM1462	
Δ	3	Strain relief (PD-6700 type only)	CM-22C	18	Function panel assembly (PD-6700 type only)	PEA1141	
Δ	3	Strain relief (PD-5700 and PD-4700 types only)	CM-22	18	Function panel assembly (PD-5700 type only)	PEA1140	
	4	Flexible cable (30P) (PD-6700 and PD-5700 types only)	PDD1049	18	Function panel assembly (PD-4700 type only)	PEA1139	
	4	Flexible cable (28P) (PD-4700 type only)	PDD1070	19	Tray name plate	PNW1900	
Δ	5	AC power cord (PD-6700 type only)	PDG1015	20	LED lens	PNW2019	
Δ	5	AC power cord (PD-5700 and PD-4700 types only)	PDG1040	21	Screw	BBZ30P060FMC	
				22	Screw	BBZ30P080FZK	
				23	Screw	BBZ30P120FMC	
Δ	6	Power transformer (AC120V)	PTT1187	24	Screw	FBT40P080FZK	
	7	Bonnet	PYY1147	25	Screw	IBZ30P150FCC	
	8	Stopper (PD-6700 and PD-5700 types only)	PNM1070	26	Screw	PDZ30P050FMC	
				27	Screw (PD-6700 type only)	BBZ30P080FCC	
	9	Insulator (PD-6700 and PD-5700 types only)	VNK1095	28	Screw (PD-6700 type only)	IBZ30P060FCC	
	10	Leg assembly (PD-4700 type only)	PXA1201				
	11	Headphone knob (PD-6700 and PD-5700 types only)	PAC1370	101	Switch board assembly		
	12	Power button	PAC1540	102	Headphone board assembly (PD-6700 and PD-5700 types only)		
	13	Play button B (PD-6700 and PD-5700 types only)	PAC1542	103	Rear base		
	13	Play button A (PD-4700 type only)	PAC1541	104	Under base		
	14	Select button (PD-6700 type only)	PAC1545	105	PCB spacer		
	14	Program button B (PD-5700 type only)	PAC1544	106	PIONEER badge		
	14	Program button A (PD-4700 type only)	PAC1543	107	Function panel C (PD-6700 type only)		
				107	Function panel B (PD-5700 type only)		
				107	Function panel A (PD-4700 type only)		

3.2 MECHANISM SECTION

Parts List of Mechanism Section

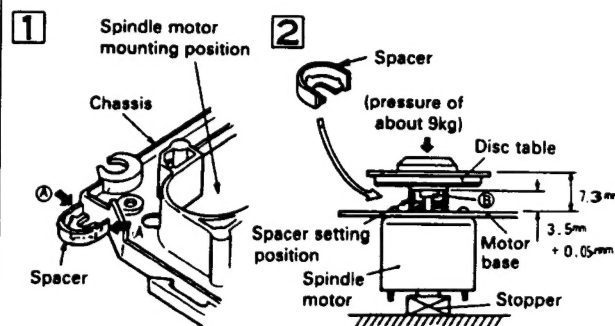
Mark	No.	Description	Part No.
	1	Lever switch (CLAMP)	DSK1003
	2	Screw	PBA1042
	3	Coil spring	PBH1085
	4	Rubber belt	PEB1127
	5	Motor pulley	PNW1634
	6	Clamper base	PNW1673
	7	Rack	PNW1674
	8	Synchronized plate	PNW1675
	9	Gear A	PNW1676
	10	Gear B	PNW1677
	11	Gear Pulley	PNW1678
	12	Sensor head	PNW1679
	13	Slide bushing	PNW1680
	14	D. C. motor (0.75W) (LOADING)	PXM1010
	15	Floating rubber	PEB1014
	16	Floating rubber	PEB1132
	17	Screw	BPZ26P080FMC
	18	Screw	IPZ30P080FMC
	19	Screw	PMZ26P040FMC
	20	Washer	WT26D047D025
	21	Earth spring	PBH1009
	22	Drive spring	PBH1084
	23	Plate spring	PBK1057
	24	Belt	PEB1072
	25	Drive screw	PLA1003
	26	Guide bar	PLA1071
	27	Pulley	PNW1066
	28	Half nut	PNW1605
	29	Disc table	PNW1608
	30	.....
	31	Push switch (INSIDE)	DSG1014
	32	Screw	PBZ30P080FMC
	33	D. C. motor (1.7W) (CARRIAGE)	PXM1013
	34	Screw	BPZ20P080FMC
	35	Screw	JFZ20P025FMC
	36	Screw	PMZ20P030FMC
	37	D. C. motor assembly (SPINDLE) (with oil)	PEA1028
	38	Pickup assembly	PEA1030
	39	Variable resistor (VR1)	PCP1008
	40	Chip capacitor (C1001)	CKSYF105Z16
	41	Washer	WA62D095D013
	42	Tray	PNW1838
	43	Swing lever	PNB1296

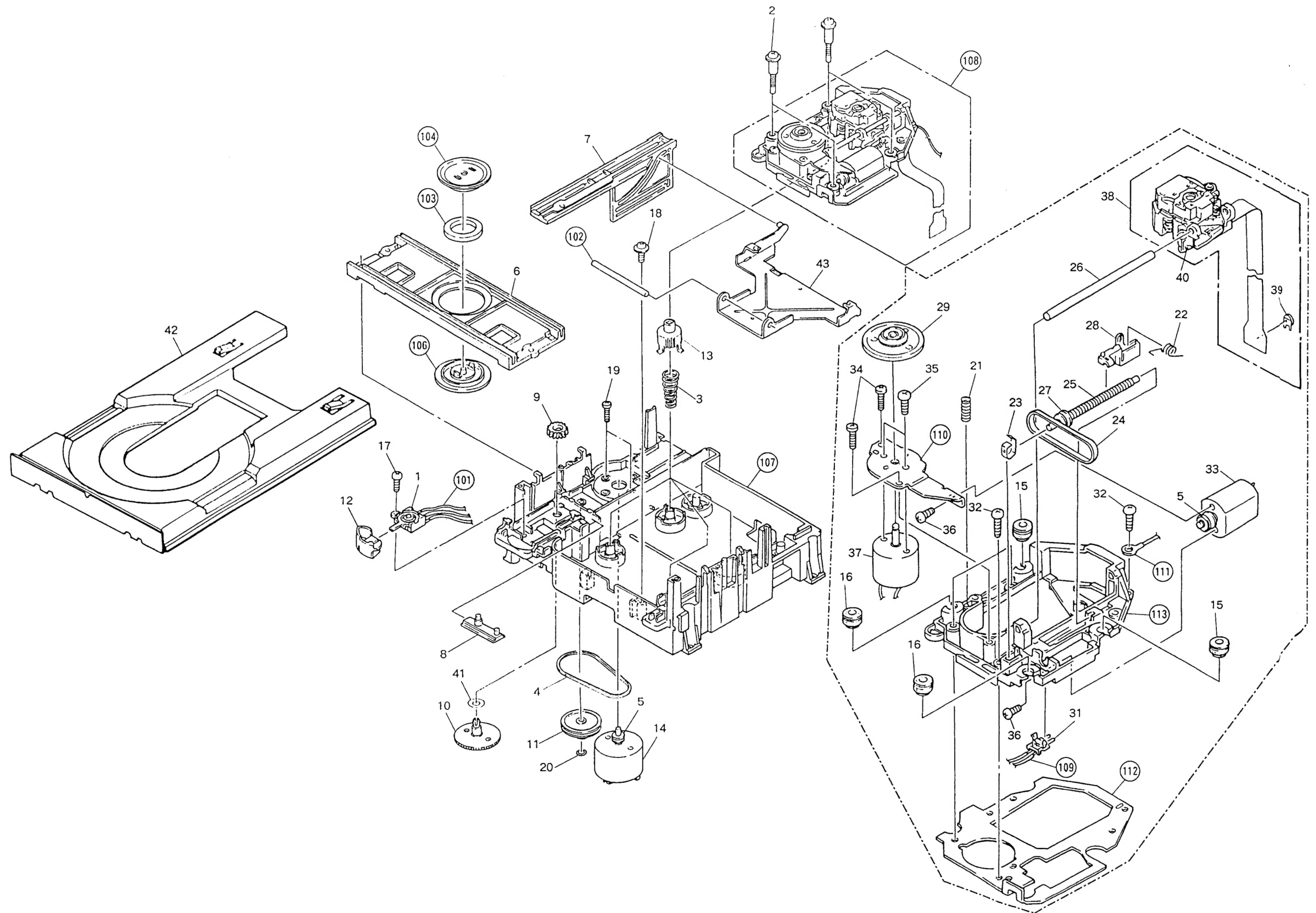
Mark	No.	Description	Part No.
	101	2mm pitch connector assembly (5P)	
	102	Shaft	
	103	Clamp magnet	
	104	Yoke	
	105	.....
	106	Clamper S	
	107	Loading base	
	108	Servo mechanism assembly	
	109	2mm pitch connector assembly (6P)	
	110	Motor base	
	111	Earth lead unit (300V)	
	112	Mechanism base	
	113	Mechanism chassis	

• How to install the disc table

1 Use nippers or other tool to cut the two sections marked ① in figure 1. Then remove the spacer.

2 While supporting the spindle motor shaft with the stopper, put spacer on top of the motor base (angled so it doesn't touch section ②), and stick the disc table on top (takes about 9kg pressure). Take off the spacer.

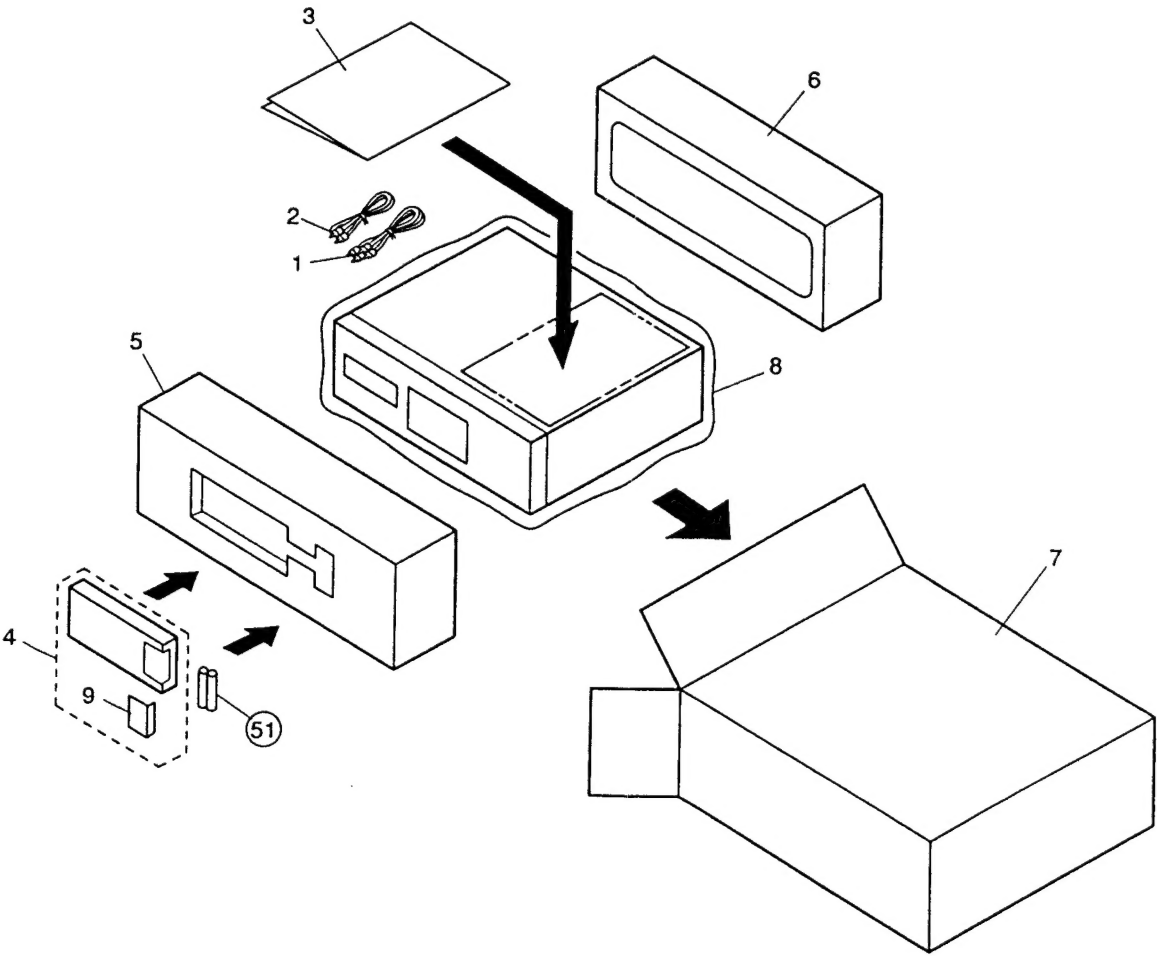




4. PACKING

Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Connection cord with mini plug	PDE-319		7	CD packing case (PD-6700 type)	PHG1700
	2	Connection cord with pin plug	PDE1109		7	CD packing case (PD-5700 type)	PHG1699
	3	Operating instructions (English)	PRB1138		7	CD packing case (PD-4700 type)	PHG1698
	4	Remote control unit (PD-6700 type)	PWW1060		8	Mirror mat sheet	Z23-007
	4	Remote control unit (PD-5700 type)	PWW1061		9	Battery cover (PD-6700 and PD-5700 types)	PZN1001
	5	Protector F	PHA1116		51	Dry cell battery(R03, AAA)	
	6	Protector R	PHA1117				



5. IC INFORMATION

PD2026A

D/A converter

Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function															
1	P/ \overline{S}	I*	Switching the serial and parallel controls.	20	LATCH (EM1)	I*	Data latch signal input for attenuator when controlling the serial. Select the deemphasis filter mode when controlling the parallel.															
2	RZ	O	Digital zero detection output of R ch.																			
3	\overline{TEST}	I*	Test terminal (usually, use at "H")																			
4	VDA	—	Analog power supply for R ch DA converter.	21	SHIFT (EM2)	I	Shift clock input for attenuator when controlling the serial. Select the deemphasis filter mode when controlling the parallel. <table><tr><td>EM1</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td>EM2</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>Mode</td><td>44.1</td><td>OFF</td><td>48</td><td>32</td></tr></table> (kHz)	EM1	L	L	H	H	EM2	L	H	L	H	Mode	44.1	OFF	48	32
EM1	L	L	H					H														
EM2	L	H	L					H														
Mode	44.1	OFF	48					32														
5	RO	O	Data positive direction output of R ch.																			
6	\overline{RO}		Data reverse direction output of R ch.																			
7	GNDA	—	Analog ground for R ch DA converter.																			
8	GNDA	—	Analog ground for L ch DA converter.																			
9	\overline{LO}	O	Data reverse output of L ch.																			
10	LO		Data positive output of L ch.																			
11	VDA		—	Analog power supply for L ch DA converter.																		
12	GNDX	—	Ground of oscillating section.	22	ATT (MUTE)	I	Data input for attenuator when controlling the serial. Becomes muting terminal when controlling the parallel. Mute ON at "H".															
13	XI	I	Crystal oscillating circuit input.	23	OSCE	I*	System clock control. Stop the system clock at "L".															
14	XO	O	Crystal oscillating circuit output.	24	\overline{RESET}	I*	Reset terminal. Reset the $\Sigma \Delta$ circuit at "L" and attenuate data becomes 00 (HEX).															
15	VDX	—	Power supply of oscillating section.																			
16	GND	—	Ground of logic section.	25	DATA	I	Data input.															
17	C	I*	Clock selection. "L" : 256fs , "H" : 384fs	26	BCK		Bit clock input.															
18	LZ	O	Digital zero detection output of L ch.	27	LRCK		LR clock input (L ch data at "H").															
19	MCK		System clock output.	28	VDD	—	Power supply of the logic section.															

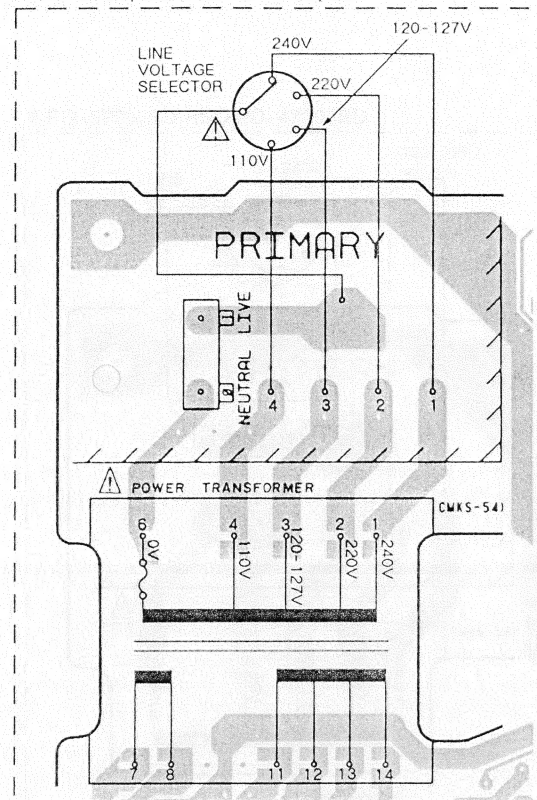
I*: Input terminals with pull-up resistor.

2.5 P.C. BOARD PATTERN

P.C.B. pattern diagram Indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zener diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		Styro capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor (Noiseless)
		Electrolytic capacitor (Polarized)
		Electrolytic capacitor (Polarized)
		Power capacitor
		Semi-fixed resistor
		Resistor array
		Resistor
		Resonator
		Thermistor

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with shows negative terminal.
4. The diode marked with shows cathode side.
5. The transistor terminal marked with shows emitter.

PD-5700/SD AND PD-4700/SD



* 1 : EXCEPT PD-4700/SD

* 2	R447, R448, R461, R462
PD-4700/SD	SHORT (JUMPER)
OTHERS	USED

* 3	IC31
PD-5700/SD	SHORT
PD-4700/SD	(JUMPER)
OTHERS	USED

Q391
Q404
Q403
Q453
Q454
Q405
IC406

X3
IC31
Q452
IC405
Q451
IC20

Q101
IC21
IC401
VR102

IC101 VR103

VR151 TP1

IC202 IC301

VR152 TP2

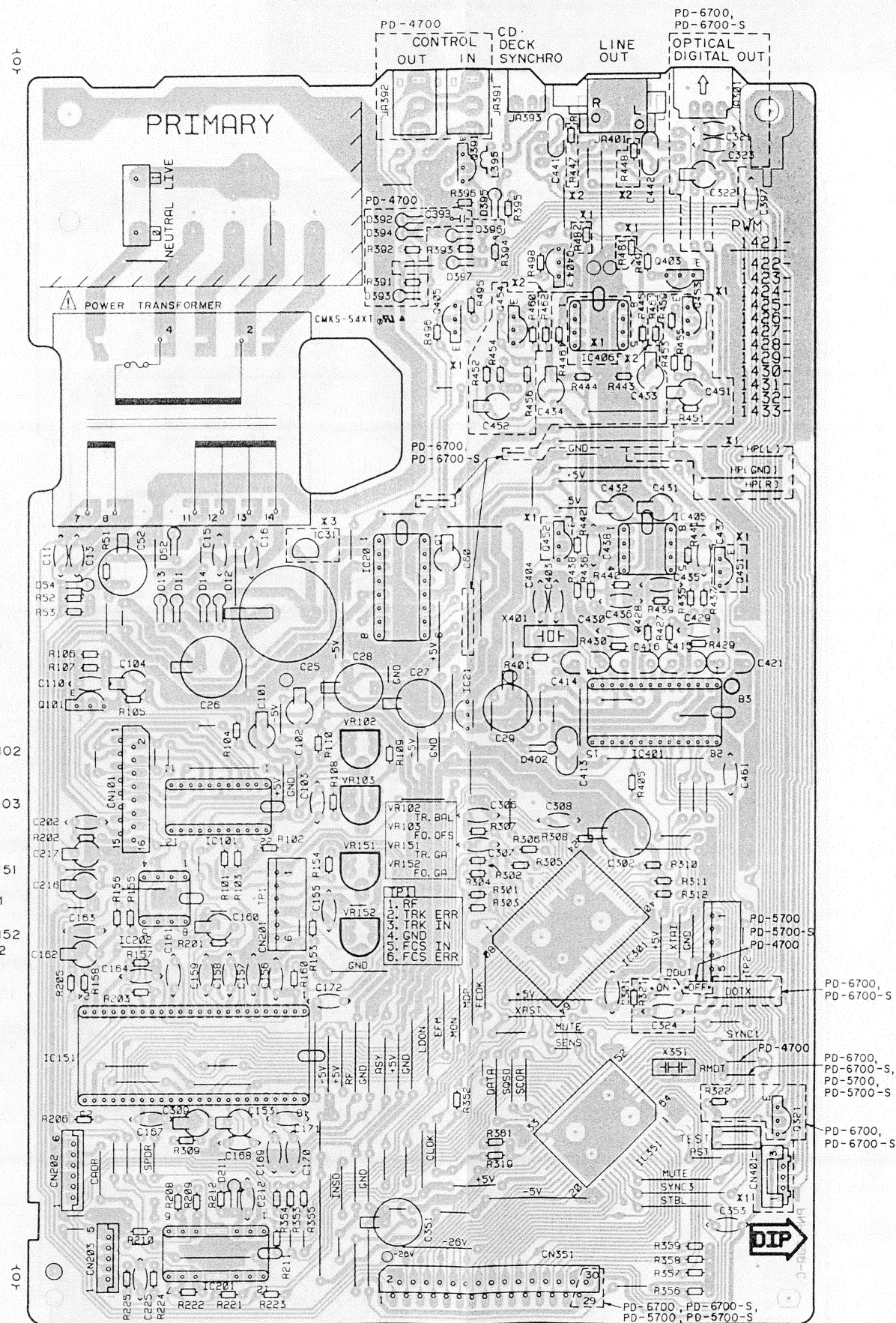
IC151

PD-6700,
PD-6700-S

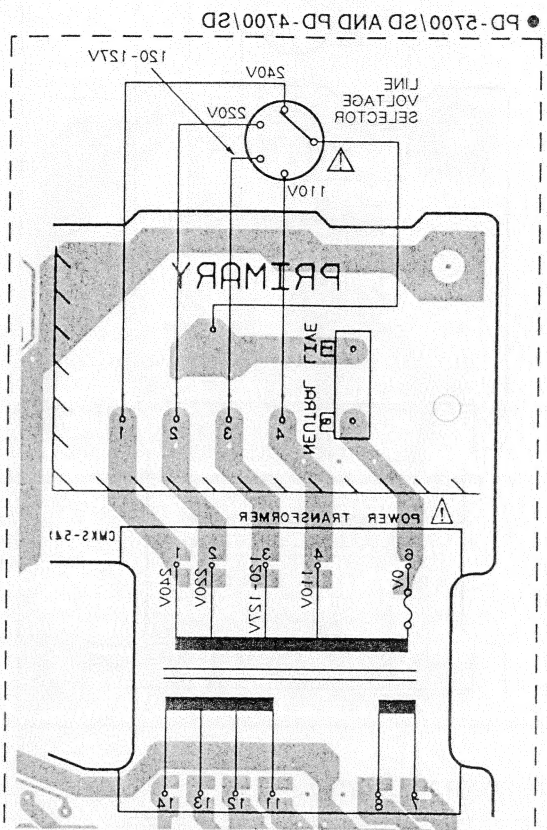
Q321

IC351

IC201

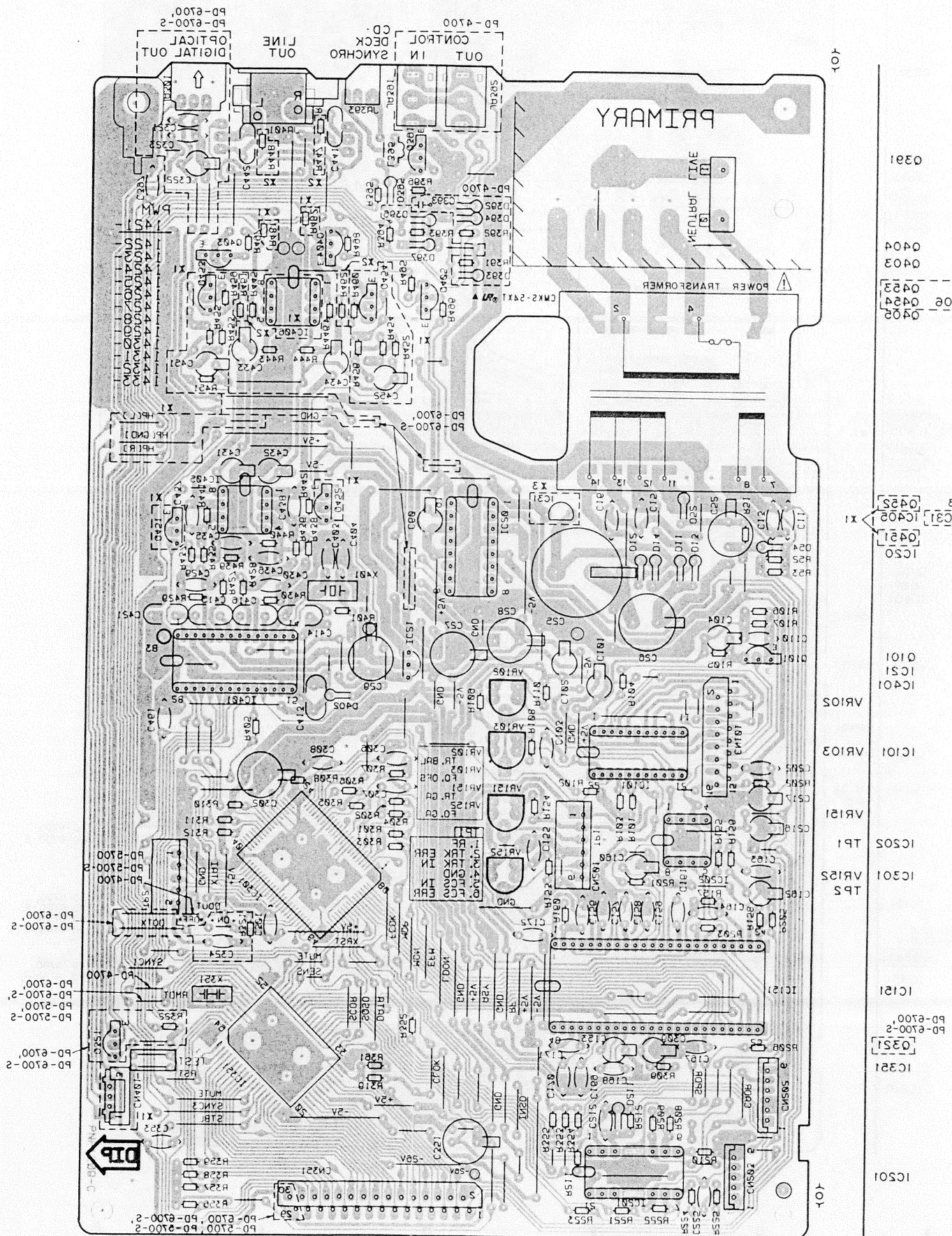


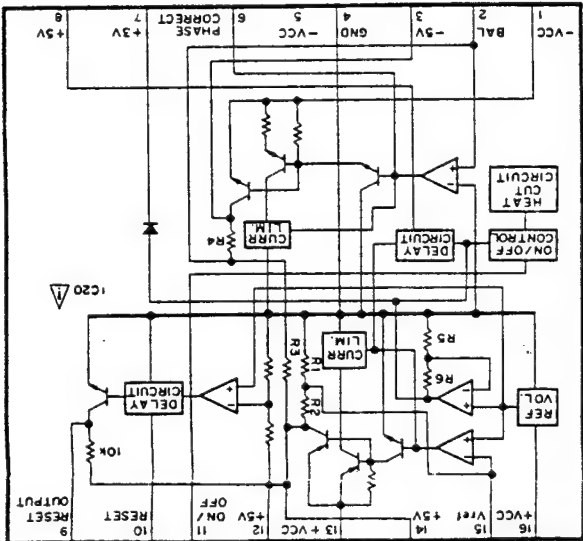
PD-6700/MEMXJ,UBXJ,PD-6700-S/MEWMXJ
PD-5700/MEMXJ,UBXJ,SD,UPW
PD-5700/MEWMXJ,PD-4700/MEMXJ,UBXJ,SD,UPW



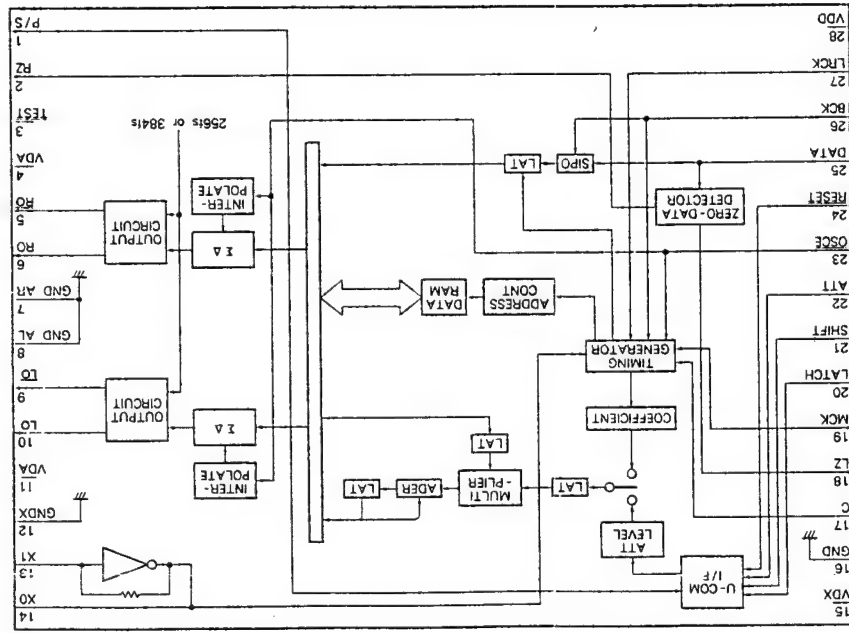
OTHERS	USED
PD-4700\SD	(NUMBER)
PD-5700\SD	SHORT
IC31	

This P. C. B. connection diagram is viewed from the foil side.

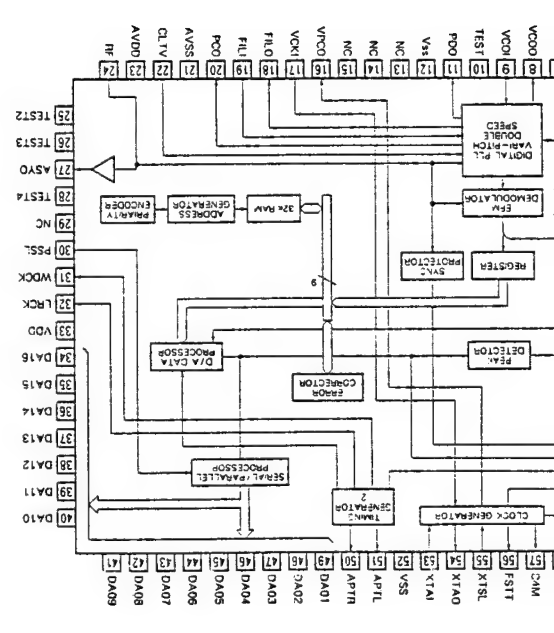




IC20:MS298P



IC401:PD2026A



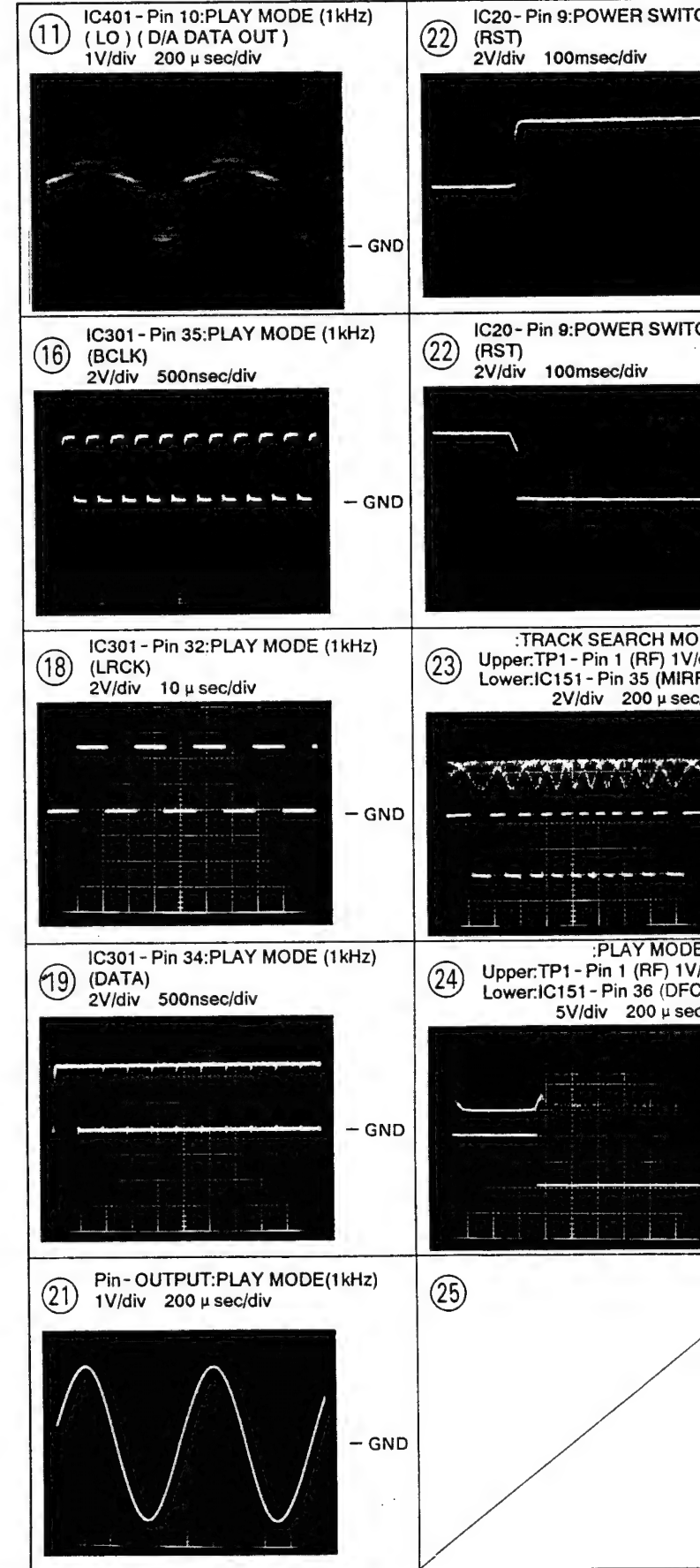
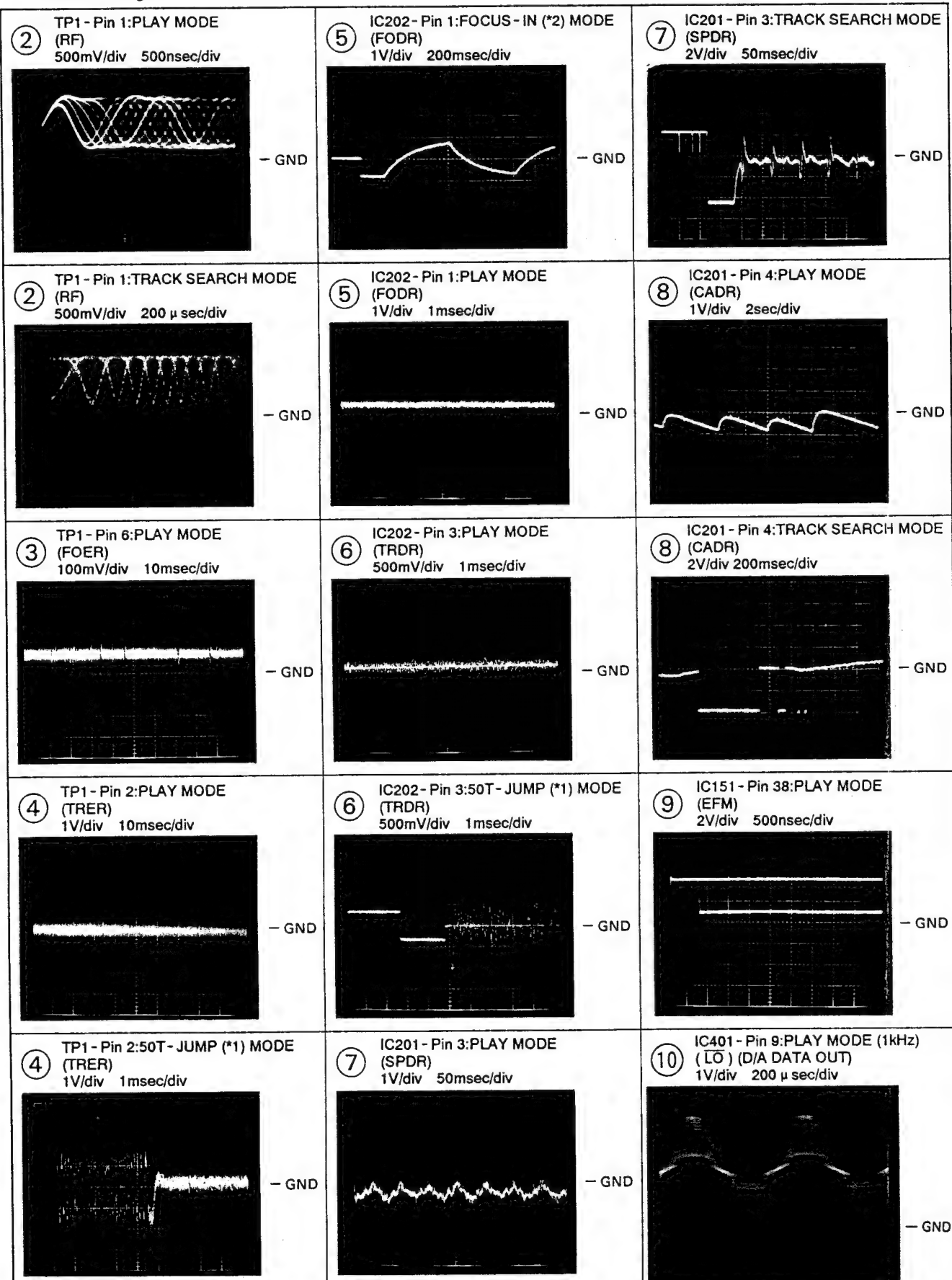
6. SCHEMATIC DIAGRAM

6.1 Wave Forms

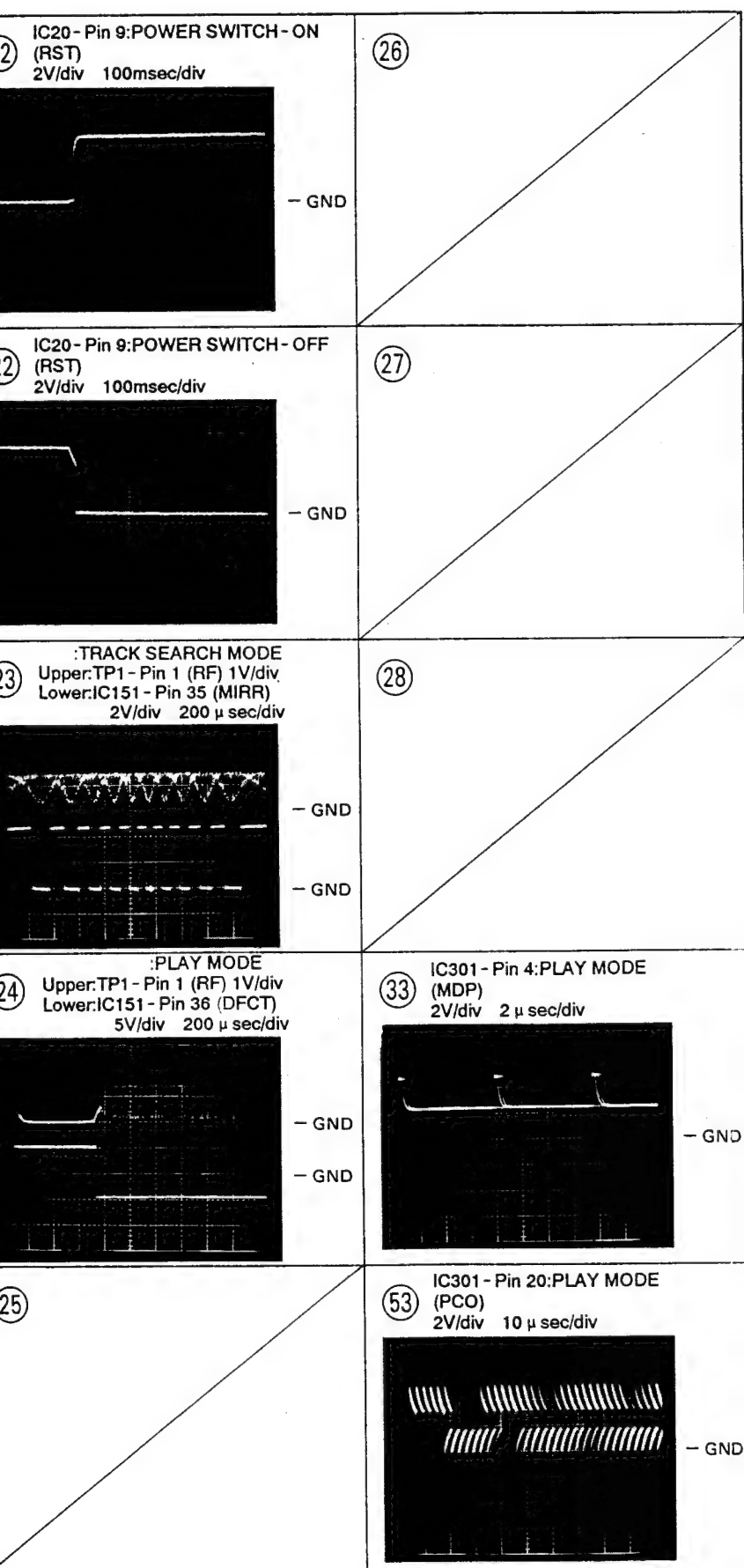
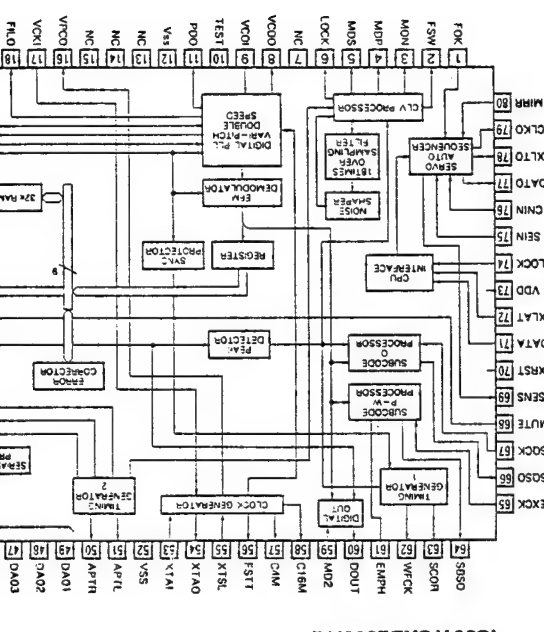
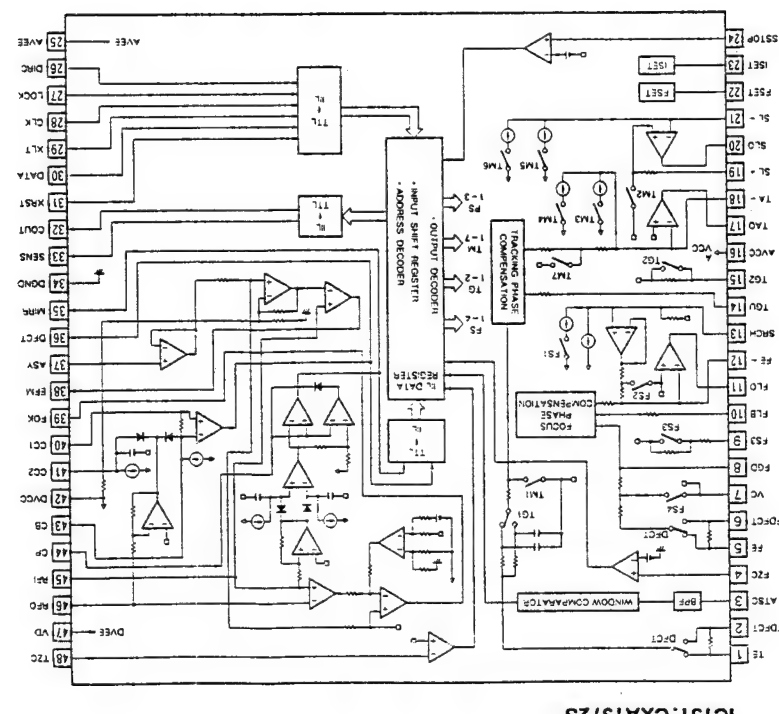
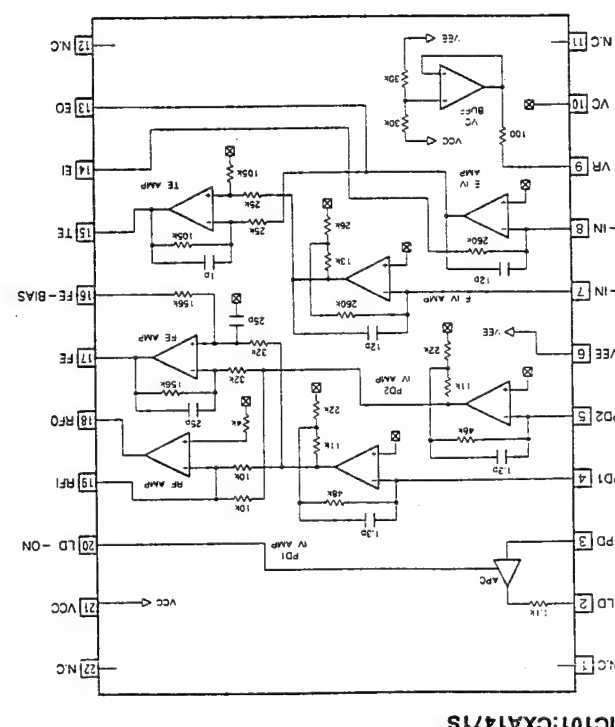
Note: The encircled numbers denote measuring in the schematic diagram.

*1 50T-JUMP: After switching to the pause mode, press the manual search key.

*2 FOCUS-IN: Press the key without loading a disc.



● IC BLOCK DIAGRAMS



- RESISTORS:
Indicated in Ω, 1/4W, 1/8W and 1/8W, ± 5% tolerance unless otherwise noted k k Ω, M; M Ω, (F); ± 1%, (G); ± 2%, (K); ± 10%, (M); ± 20% tolerance.
- CAPACITORS:
Indicated in capacity (μ F)/voltage(V) unless otherwise noted p; pF. Indication without voltage is 50V except electrolytic capacitor.
- VOLTAGE, CURRENT:
□ :DC voltage(V) at play state.
⇨ mA :DC current at play state.
Value in () is DC current at stop state.

- OTHERS:
⇒ :Signal route.
⊗ :Adjusting point.
The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES : (The underlined indicates the switch position)

SWITCH BOARD ASSEMBLY

S801 : POWER ON — OFF

FUNCTION BOARD ASSEMBLY

(PD - 6700 TYPE)

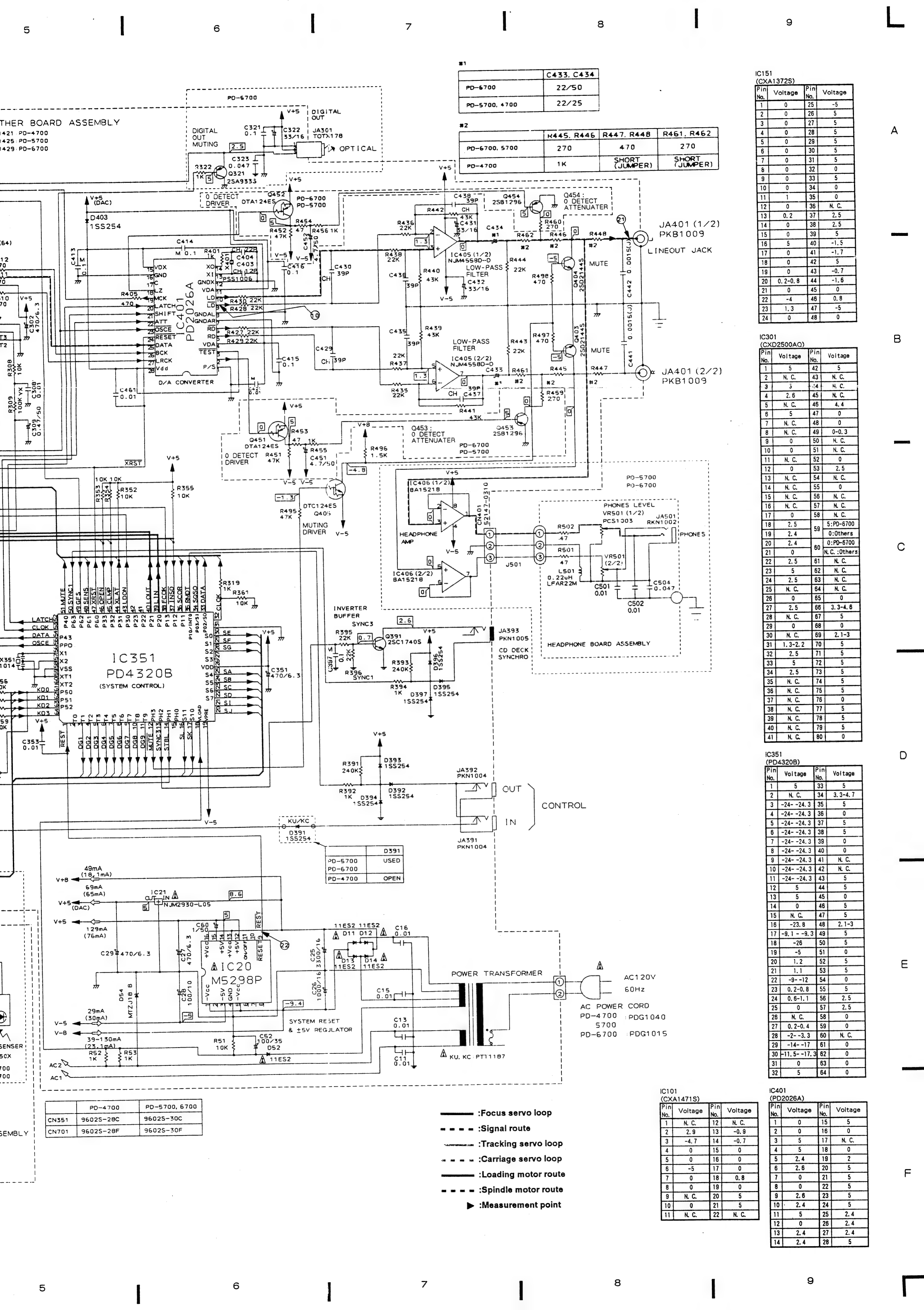
- S701 : PEAK SEARCH
- S702 : CHECK
- S703 : CLEAR
- S704 : PGM
- S705 : EDIT
- S706 : RANDOM PLAY
- S707 : >>>] MANUAL SEARCH
- S708 : <<<]
- S709 : STOP(□)
- S710 : PLAY(▷)
- S711 : >>>] TRACK SEARCH
- S712 : <<<]
- S713 : PAUSE(□□)
- S714 : 17
- S715 : 18
- S716 : 19
- S717 : 20
- S718 : 14
- S719 : 15
- S720 : 16
- S721 : 11
- S722 : 12
- S723 : 13
- S724 : OPEN/CLOSE(Δ)
- S725 : HI - LITE SCAN
- S726 : REPEAT
- S727 : TIME
- S728 : 10
- S729 : 9
- S730 : 8
- S731 : 7
- S732 : > 20
- S733 : 6
- S734 : 5
- S735 : 4
- S736 : +10
- S737 : 3
- S738 : 2
- S739 : 1

FUNCTION BOARD ASSEMBLY

(PD - 5700 AND PD4700 TYPES)

- S701 : PEAK SEARCH
- S702 : CHECK
- S703 : CLEAR
- S704 : PGM
- S705 : EDIT
- S706 : RANDOM PLAY
- S707 : >>>] MANUAL SEARCH
- S708 : <<<]
- S709 : STOP(□)
- S710 : PLAY(▷)
- S711 : >>>] TRACK SEARCH
- S712 : <<<]
- S713 : PAUSE(□□)
- S724 : OPEN/CLOSE(Δ)
- S725 : HI - LITE SCAN
- S726 : REPEAT
- S727 : TIME
- S728 : 10
- S729 : 9
- S730 : 8
- S731 : 7
- S732 : > 20
- S733 : 6
- S734 : 5
- S735 : 4
- S736 : +10
- S737 : 3
- S738 : 2
- S739 : 1

5



7. P.C.BOARDS CONNECTION DIAGRAM

MOTHER BOARD ASSSEMBLY
(PD-6700 : PWM1429)
(PD-5700 : PWM1425)
(PD-4700 : PWM1421)

D391	
PD-6700, PD-5700	USED
PD-4700	OPEN

*1: PD-6700,PD-5700 TYPES

	R447,R448 R461,R462
PD-6700, PD-5700	USED
PD-4700	SHORT (JUMPER)

IC301
(CXD2500AO)

Pin No.	Voltage	Pin No.	Voltage
1	5	42	5
2	N. C.	43	N. C.
3	5	44	N. C.
4	2.6	45	N. C.
5	N. C.	46	4.4
6	5	47	0
7	N. C.	48	0
8	N. C.	49	0-0.3
9	0	50	N. C.
10	0	51	N. C.
11	N. C.	52	0
12	0	53	2.5
13	N. C.	54	N. C.
14	N. C.	55	0
15	N. C.	56	N. C.
16	N. C.	57	N. C.
17	0	58	N. C.
18	2.5	59	5:PD-6700 0:Others
19	2.4	60	0:PD-6700 N. C.:Others
20	2.4	61	N. C.
21	0	62	N. C.
22	2.5	63	N. C.
23	5	64	N. C.
24	2.5	65	0
25	N. C.	66	3.3-4.6
26	0	67	5
27	2.5	68	0
28	N. C.	69	2.1-3
29	0	70	5
30	N. C.	71	5
31	1.3-2.2	72	5
32	2.5	73	5
33	5	74	5
34	2.5	75	5
35	N. C.	76	0
36	N. C.	77	5
37	N. C.	78	5
38	N. C.	79	5
39	N. C.	80	0
40	N. C.		
41	N. C.		

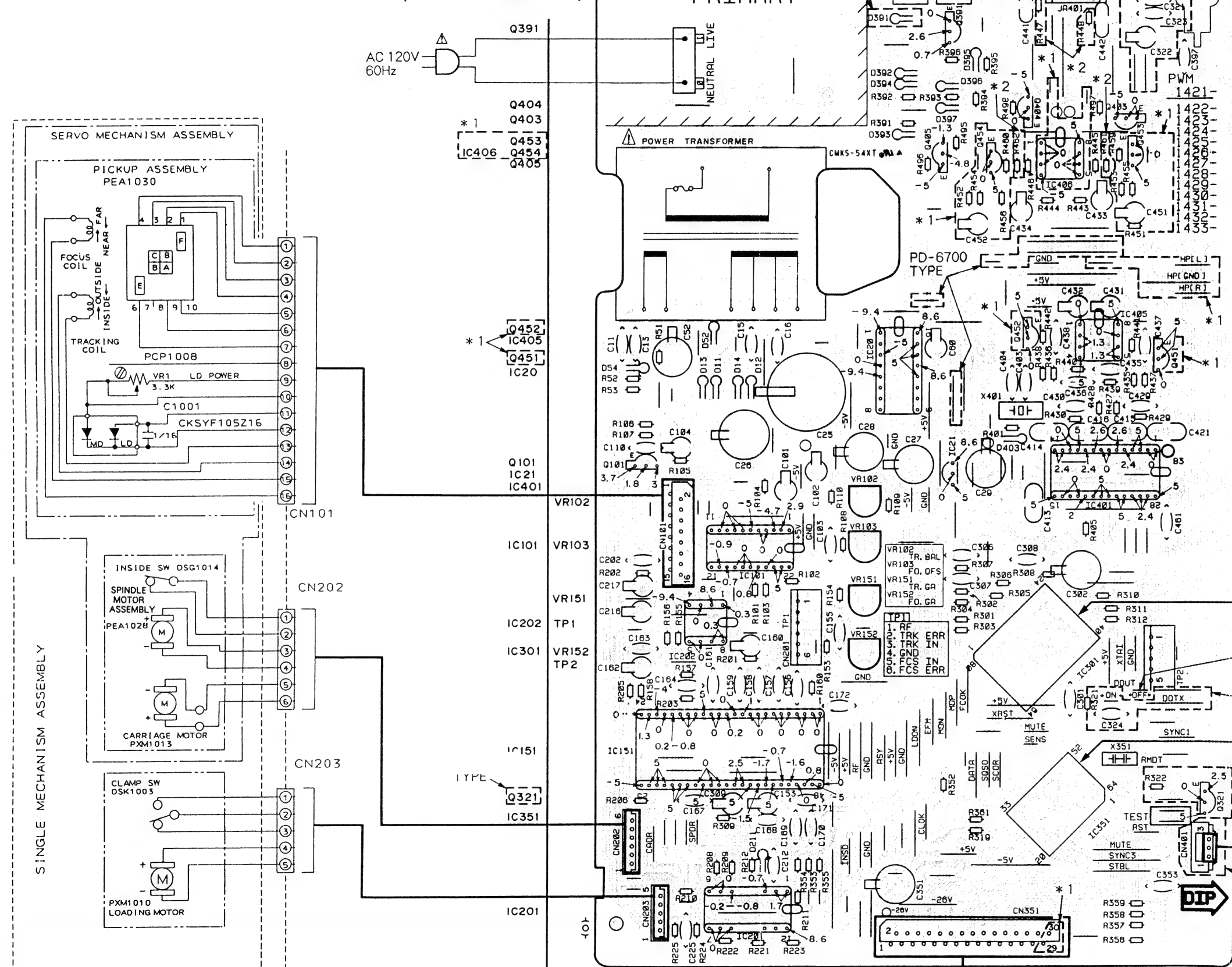
IC351
(PD4320B)

Pin No.	Voltage	Pin No.	Voltage
1	5	33	5
2	N. C.	34	3.3-4.7
3	-24- -24.3	35	5
4	-24- -24.3	36	0
5	-24- -24.3	37	5
6	-24- -24.3	38	5
7	-24- -24.3	39	0
8	-24- -24.3	40	0
9	-24- -24.3	41	N. C.
10	-24- -24.3	42	N. C.
11	-24- -24.3	43	5
12	5	44	5
13	5	45	0
14	0	46	5
15	N. C.	47	5
16	-23.8	48	2.1-3
17	-9.1- -9.3	49	5
18	-26	50	5
19	-5	51	0
20	1.2	52	5
21	1.1	53	5
22	-9- -12	54	0
23	0.2-0.8	55	5
24	0.6-1.1	56	2.5
25	0	57	2.5
26	N. C.	58	0
27	0.2-0.4	59	0
28	-2- -3.3	60	N. C.
29	-14- -17	61	0
30	-11.5- -17.3	62	0
31	0	63	0
32	5	64	0

PD-5700,
PD-4700
TYPE

PD-
TYPE

PD-6
TYPE



A

B

C

D

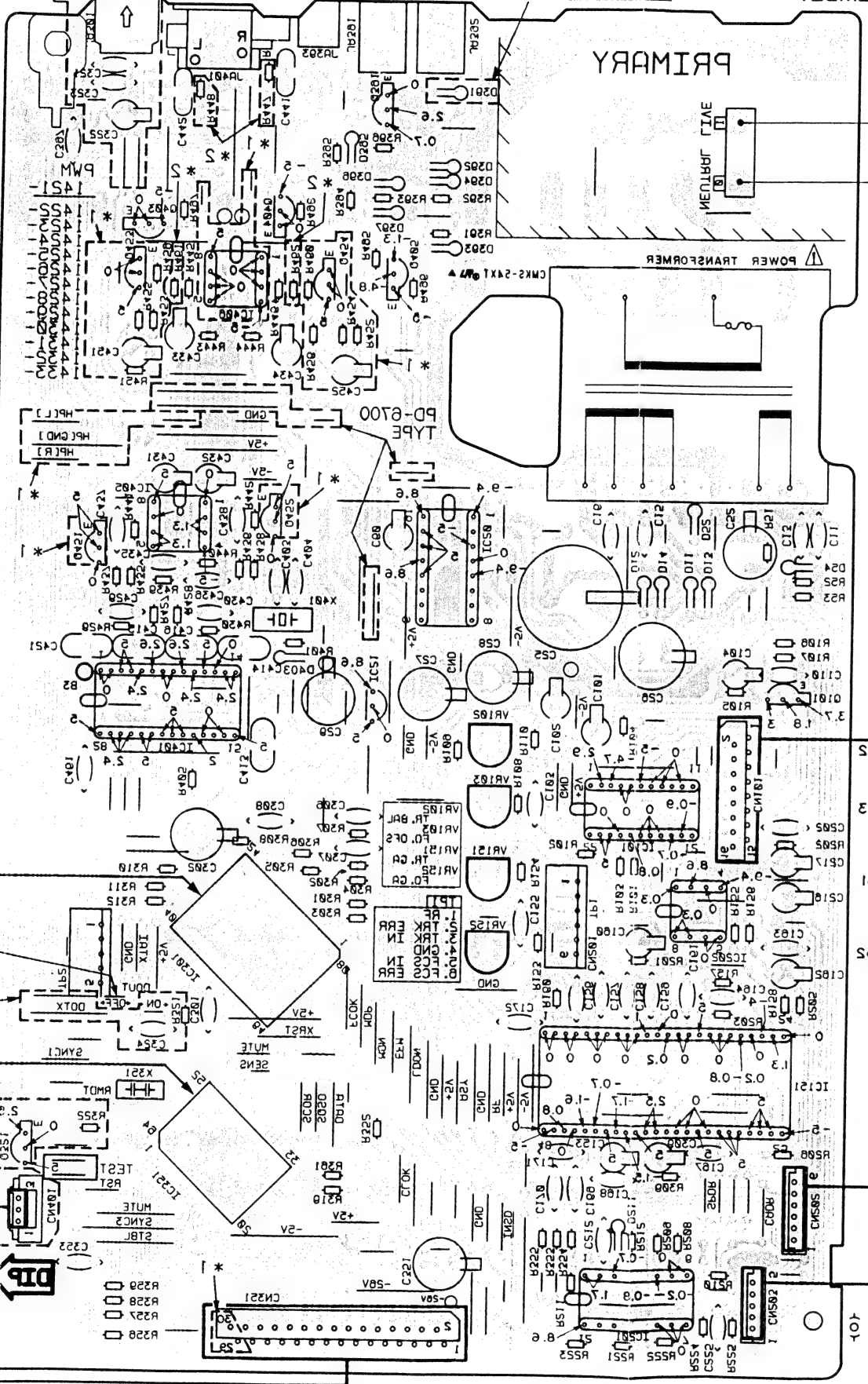
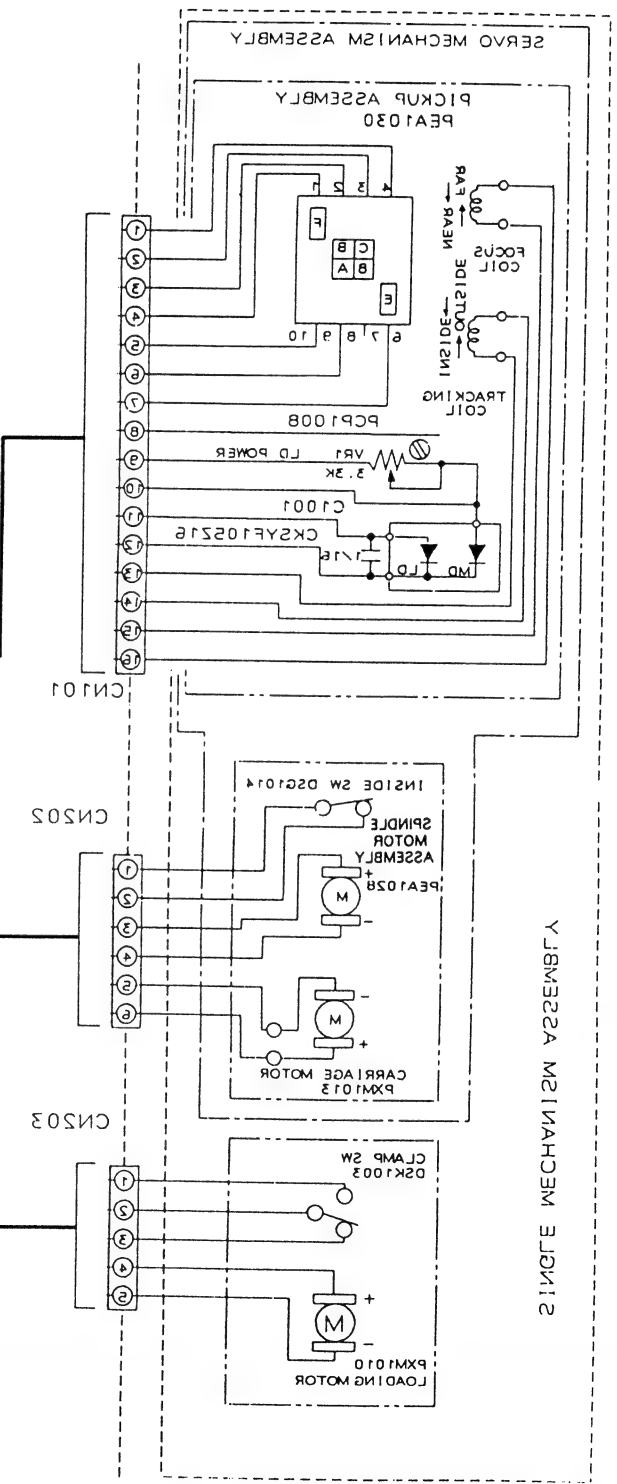
7. P.C. BOARDS CONNECTION DIAGRAM

MOTHER BOARD ASSEMBLY
(PD-4700 : PWM1451)
(PD-5700 : PWM1452)
(PD-6700 : PWM1453)

PD-4700	OPEN
PD-5700	USED
PD-6700	USED
D301	

PD-4700	(NUMBER SHORT)
PD-5700	USED
PD-6700	USED
R461,R465	
R447,R448	

* 1: PD-6700PD-5700 TYPES



IC301 (CXD2500A0)		IC321 (PD4350B)	
No.	Pin	No.	Pin
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
20	20	20	20
21	21	21	21
22	22	22	22
23	23	23	23
24	24	24	24
25	25	25	25
26	26	26	26
27	27	27	27
28	28	28	28
29	29	29	29
30	30	30	30
31	31	31	31
32	32	32	32
33	33	33	33
34	34	34	34
35	35	35	35
36	36	36	36
37	37	37	37
38	38	38	38
39	39	39	39
40	40	40	40
41	41	41	41
42	42	42	42
43	43	43	43
44	44	44	44
45	45	45	45
46	46	46	46
47	47	47	47
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56	56	56	56
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62	62	62	62
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64	64	64	64
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88	88	88	88
89	89	89	89
90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

PD-4700	58PIN
PD-5700	30PIN
PD-6700	CN321 CN101

8. P. C. B's PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).

560 Ω \rightarrow 56 $\times 10^1 \rightarrow$ 561 RD1/4PS $\boxed{5}\boxed{6}\boxed{1}\boxed{J}$

47k Ω \rightarrow 47 $\times 10^3 \rightarrow$ 473 RD1/4PS $\boxed{4}\boxed{7}\boxed{3}\boxed{J}$

0.5 Ω \rightarrow 0R5 RN2H $\boxed{0}\boxed{R}\boxed{5}\boxed{K}$

1 Ω \rightarrow 010 RSIP $\boxed{0}\boxed{1}\boxed{0}\boxed{K}$

Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).

5.62k Ω \rightarrow 562 $\times 10^1 \rightarrow$ 5621 RN1/4SR $\boxed{5}\boxed{6}\boxed{2}\boxed{1}\boxed{F}$

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
Switch Board Assembly							
SEMICONDUCTOR							
	D801	LED	PCX1019		Q101	TRANSISTOR	2SA854S
SWITCH					Q321	TRANSISTOR	2SA933S
	S801	SWITCH (POWER)	PSG1006		Q391	TRANSISTOR	2SC1740S
Headphone Board Assembly					Q403, 404	TRANSISTOR	2SD2144S
(PD- 6700 and PD- 5700 types)					Q405	TRANSISTOR	DTC124ES
COIL							
	L501		LFAR22M		Q451, 452	TRANSISTOR	DTA124ES
CAPACITORS					Q453, 454	TRANSISTOR	2SB1296
	C501, 502	CERAMIC CAPACITOR	CKCYF103Z50				
	C504	CERAMIC CAPACITOR	CKCYF473Z50				
RESISTORS				Δ	D11-14	DIODE	11ES2
	VR501	VARIABLE RESISTOR (PHONES LEVEL)	PCS1003		D211	ZENNER DIODE	MTZJ6. 2B
	R501, 502	CARBON FILM RESISTOR	RD1/6PM470J		D391-397	DIODE	1SS254
OTHERS					D403	DIODE	1SS254
	JA501	JACK (PHONES)	RKN1002	Δ	D52	DIODE	11ES2
⊙ Mother Board Assembly					D54	ZENNER DIODE	MTZJ18B
(PWM1429:PD- 6700)				CAPACITORS			
SEMICONDUCTORS					C101, 102	ELECTR. CAPACITOR	CEAS101M10
	IC101	PRE AMP IC	CXA1471S		C103	CERAMIC CAPACITOR	CCCCH200J50
	IC151	SERVO IC	CXA1372S		C104	ELECTR. CAPACITOR	CEAS101M10
Δ	IC20	REGULATOR IC	M5298P		C11, 110	CERAMIC CAPACITOR	CKCYF103Z50
Δ	IC201	POWER OP-AMP, IC	LA6520		C13, 15	CERAMIC CAPACITOR	CKCYF103Z50
Δ	IC202	POWER OP-AMP, IC	LA6517				
	IC21	REGULATOR, IC	NJM2930-L05		C153	ELECTR. CAPACITOR	CEAS101M10
	IC301	EFM DEMODULATION IC	CXD2500AQ		C155	CERAMIC CAPACITOR	CKCYB182K50
	IC351	MICROCOMPUTER, IC	PD4320B		C156	CERAMIC CAPACITOR	CGCYX333K25
	IC401	D/A CONVERTER, IC	PD2026A		C157	CERAMIC CAPACITOR	CGCYX103K25
	IC405	OP-AMP IC	NJM4558D-D		C158, 159	CERAMIC CAPACITOR	CGCYX104K25
	IC406	OP-AMP IC	BA15218				
					C16	CERAMIC CAPACITOR	CKCYF103Z50
					C160	ELECTR. CAPACITOR	CEAS4R7M50
					C161	CERAMIC CAPACITOR	CGCYX104K25
					C162	ELECTR. CAPACITOR	CEAS010M50
					C163	CERAMIC CAPACITOR	CGCYX104K25
					C164	CERAMIC CAPACITOR	CGCYX103K25
					C167	CERAMIC CAPACITOR	CKCYF103Z50
					C168	CERAMIC CAPACITOR	CGCYX333K25
					C169	CERAMIC CAPACITOR	CGCYX103K25
					C170	CERAMIC CAPACITOR	CKCYB332K50
					C171, 172	CERAMIC CAPACITOR	CKCYB472K50
					C202	CERAMIC CAPACITOR	CKCYF103Z50
					C212	CERAMIC CAPACITOR	CGCYX103K25
					C216, 217	ELECTR. CAPACITOR	CEAS330M16
					C225	CERAMIC CAPACITOR	CGCYX104K25

Mark	No.	Description	Part No.
	C25	ELECTR. CAPACITOR	CEAS332M16
	C26	ELECTR. CAPACITOR	CEAS102M16
	C27	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C28	ELECTR. CAPACITOR	CEAS101M10
	C29	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C301	CERAMIC CAPACITOR	CGCYX104K25
	C302	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C306	CERAMIC CAPACITOR	CKCYB152K50
	C307	CERAMIC CAPACITOR	CGCYX473K25
	C308	CERAMIC CAPACITOR	CGCYX103K25
	C309	ELECTR. CAPACITOR	CEASR47M50
	C321	CERAMIC CAPACITOR	CGCYX104K25
	C322	ELECTR. CAPACITOR	CEAS330M16
	C323	CERAMIC CAPACITOR	CKCYF473Z50
	C324	CERAMIC CAPACITOR	CCCCH100D50
	C351	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C353	CERAMIC CAPACITOR	CKCYF103Z50
	C397	MYLOR FILM CAPACITOR	CQMA104K50
	C403	CERAMIC CAPACITOR	CCCCH120J50
	C404	CERAMIC CAPACITOR	CCCCH220J50
	C413, 414	MYLOR FILM CAPACITOR	CQMA104K50
	C415, 416	AUDIO FILM CAPACITOR	CFTXA104J50
	C421	MYLOR FILM CAPACITOR	CQMA103K50
	C429, 430	CERAMIC CAPACITOR	CCCCH390J50
	C431, 432	ELECTR. CAPACITOR	CEAS330M16
	C433, 434	ELECTR. CAPACITOR	CEAS220M50
	C435-438	CERAMIC CAPACITOR	CCCCH390J50
	C441, 442	PL. STYRENE CAPACITOR	CQSA152J50
	C451, 452	ELECTR. CAPACITOR	CEAS4R7M50
	C461	CERAMIC CAPACITOR	CKCYF103Z50
	C52	ELECTR. CAPACITOR	CEAS101M35
	C60	ELECTR. CAPACITOR	CEAS010M50

RESISTORS

VR102	VR (22k Ω)	RCP1046
VR103	VR (1k Ω)	RCP1044
VR151, 152	VR (22k Ω)	RCP1046
Other resistors		RD1/6PM□□□J

OTHERS

CN101	CONNECTOR	52045-1610
CN351	CONNECTOR	9602S-30C
JA301	OPTICAL OUTPUT JACK	TOTX178
JA391, 392	JACK/12V (CONTROL IN, OUT)	PKN1004
JA393	JACK (CD DECK SYNCHRO)	PKN1005
JA401	JACK (LINE OUT L, R)	PKB1009
X351	CERAMIC RESONATOR (4.19MHz)	VSS1014
X401	XTAL RES (OSC) (16.9344MHz)	PSS1006

Mark	No.	Description	Part No.
------	-----	-------------	----------

◎ Mother Board Assembly (PWM1425:PD-5700)

SEMICONDUCTORS

	IC101	PRE AMP IC	CXA1471S
	IC151	SERVO IC	CXA1372S
△	IC20	REGULATOR IC	M5298P
△	IC201	POWER OP-AMP, IC	LA6520
△	IC202	POWER OP-AMP, IC	LA6517
	IC21	REGULATOR, IC	NJM2930-L05
	IC301	EFM DEMODULATION IC	CXD2500AQ
	IC351	MICROCOMPUTER, IC	PD4320B
	IC401	D/A CONVERTER, IC	PD2026A
	IC405	OP-AMP IC	NJM4558D-D
	IC406	OP-AMP IC	BA15218
	Q101	TRANSISTOR	2SA854S
	Q391	TRANSISTOR	2SC1740S
	Q403, 404	TRANSISTOR	2SD2144S
	Q405	TRANSISTOR	DTC124ES
	Q451, 452	TRANSISTOR	DTA124ES
	Q453, 454	TRANSISTOR	2SB1296
△	D11-14	DIODE	11ES2
	D211	ZENNER DIODE	MTZJ6. 2B
	D391-397	DIODE	1SS254
	D403	DIODE	1SS254
△	D52	DIODE	11ES2
	D54	ZENNER DIODE	MTZJ18B

CAPACITORS

	C101, 102	ELECTR. CAPACITOR	CEAS101M10
	C103	CERAMIC CAPACITOR	CCCCH200J50
	C104	ELECTR. CAPACITOR	CEAS101M10
	C11, 110	CERAMIC CAPACITOR	CKCYF103Z50
	C13, 15	CERAMIC CAPACITOR	CKCYF103Z50
	C153	ELECTR. CAPACITOR	CEAS101M10
	C155	CERAMIC CAPACITOR	CKCYB182K50
	C156	CERAMIC CAPACITOR	CGCYX333K25
	C157	CERAMIC CAPACITOR	CGCYX103K25
	C158, 159	CERAMIC CAPACITOR	CGCYX104K25
	C16	CERAMIC CAPACITOR	CKCYF103Z50
	C160	ELECTR. CAPACITOR	CEAS4R7M50
	C161	CERAMIC CAPACITOR	CGCYX104K25
	C162	ELECTR. CAPACITOR	CEAS010M50
	C163	CERAMIC CAPACITOR	CGCYX104K25
	C164	CERAMIC CAPACITOR	CGCYX103K25
	C167	CERAMIC CAPACITOR	CKCYF103Z50
	C168	CERAMIC CAPACITOR	CGCYX333K25
	C169	CERAMIC CAPACITOR	CGCYX103K25
	C170	CERAMIC CAPACITOR	CKCYB332K50
	C171, 172	CERAMIC CAPACITOR	CKCYB472K50
	C202	CERAMIC CAPACITOR	CKCYF103Z50
	C212	CERAMIC CAPACITOR	CGCYX103K25
	C216, 217	ELECTR. CAPACITOR	CEAS330M16
	C225	CERAMIC CAPACITOR	CGCYX104K25
	C25	ELECTR. CAPACITOR	CEAS332M16
	C26	ELECTR. CAPACITOR	CEAS102M16
	C27	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C28	ELECTR. CAPACITOR	CEAS101M10
	C29	ELECTROLYTIC CAPACIT	CEAS471M6R3

Mark	No.	Description	Part No.
	C301	CERAMIC CAPACITOR	CGCYX104K25
	C302	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C306	CERAMIC CAPACITOR	CKCYB152K50
	C307	CERAMIC CAPACITOR	CGCYX473K25
	C308	CERAMIC CAPACITOR	CGCYX103K25
	C309	ELECTR. CAPACITOR	CEASR47M50
	C351	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C353	CERAMIC CAPACITOR	CKCYF103Z50
	C397	MYLOR FILM CAPACITOR	CQMA104K50
	C403	CERAMIC CAPACITOR	CCCCH120J50
	C404	CERAMIC CAPACITOR	CCCCH220J50
	C413-416	MYLOR FILM CAPACITOR	CQMA104K50
	C421	MYLOR FILM CAPACITOR	CQMA103K50
	C429, 430	CERAMIC CAPACITOR	CCCCH390J50
	C431, 432	ELECTR. CAPACITOR	CEAS330M16
	C433, 434	ELECTR. CAPACITOR	CEAS220M25
	C435-438	CERAMIC CAPACITOR	CCCCH390J50
	C441, 442	MYLOR FILM CAPACITOR	CQMA152J50
	C451, 452	ELECTR. CAPACITOR	CEAS4R7M50
	C461	CERAMIC CAPACITOR	CKCYF103Z50
	C52	ELECTR. CAPACITOR	CEAS101M35
	C60	ELECTR. CAPACITOR	CEAS010M50

RESISTORS

VR102	VR (22k Ω)	RCP1046
VR103	VR (1k Ω)	RCP1044
VR151, 152	VR (22k Ω)	RCP1046
Other resistors		RD1/6PW□□□□

OTHERS

CN101	CONNECTOR	52045-1610
CN351	CONNECTOR	9602S-30C
JA391, 392	JACK/12V (CONTROL IN, OUT)	PKN1004
JA393	JACK (CD DECK SYNCHRO)	PKN1005
JA401	JACK (LINE OUT L, R)	PKB1009
X351	CERAMIC RESONATOR (4.19MHz)	VSS1014
X401	XTAL RES (OSC) (16.9344MHz)	PSS1006

◎ Mother Board Assembly (PWM1421:PD- 4700)

SEMICONDUCTORS

	IC101	PRE AMP IC	CXA1471S
	IC151	SERVO IC	CXA1372S
△	IC20	REGULATOR IC	M5298P
△	IC201	POWER OP-AMP, IC	LA6520
△	IC202	POWER OP-AMP, IC	LA6517
	IC21	REGULATOR, IC	NJM2930-L05
	IC301	EFM DEMODULATION IC	CXD2500AQ
	IC351	MICROCOMPUTER, IC	PD4320B
	IC401	D/A CONVERTER, IC	PD2026A
	IC405	OP-AMP IC	NJM4558D-D
	Q101	TRANSISTOR	2SA854S
	Q391	TRANSISTOR	2SC1740S
	Q403, 404	TRANSISTOR	2SD2144S
	Q405	TRANSISTOR	DTC124ES

Mark	No.	Description	Part No.
△	D11-14	DIODE	11ES2
	D211	ZENNER DIODE	MTZJ6. 2B
	D392-397	DIODE	1SS254
	D403	DIODE	1SS254
△	D52	DIODE	11ES2
	D54	ZENNER DIODE	MTZJ18B

CAPACITORS

	C101, 102	ELECTR. CAPACITOR	CEAS101M10
	C103	CERAMIC CAPACITOR	CCCCH200J50
	C104	ELECTR. CAPACITOR	CEAS101M10
	C11, 110	CERAMIC CAPACITOR	CKCYF103Z50
	C13, 15	CERAMIC CAPACITOR	CKCYF103Z50
	C153	ELECTR. CAPACITOR	CEAS101M10
	C155	CERAMIC CAPACITOR	CKCYB182K50
	C156	CERAMIC CAPACITOR	CGCYX333K25
	C157	CERAMIC CAPACITOR	CGCYX103K25
	C158, 159	CERAMIC CAPACITOR	CGCYX104K25
	C16	CERAMIC CAPACITOR	CKCYF103Z50
	C160	ELECTR. CAPACITOR	CEAS4R7M50
	C161	CERAMIC CAPACITOR	CGCYX104K25
	C162	ELECTR. CAPACITOR	CEAS010M50
	C163	CERAMIC CAPACITOR	CGCYX104K25
	C164	CERAMIC CAPACITOR	CGCYX103K25
	C167	CERAMIC CAPACITOR	CKCYF103Z50
	C168	CERAMIC CAPACITOR	CGCYX333K25
	C169	CERAMIC CAPACITOR	CGCYX103K25
	C170	CERAMIC CAPACITOR	CKCYB332K50
	C171, 172	CERAMIC CAPACITOR	CKCYB472K50
	C202	CERAMIC CAPACITOR	CKCYF103Z50
	C212	CERAMIC CAPACITOR	CGCYX103K25
	C216, 217	ELECTR. CAPACITOR	CEAS330M16
	C225	CERAMIC CAPACITOR	CGCYX104K25
	C25	ELECTR. CAPACITOR	CEAS332M16
	C26	ELECTR. CAPACITOR	CEAS102M16
	C27	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C28	ELECTR. CAPACITOR	CEAS101M10
	C29	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C301	CERAMIC CAPACITOR	CGCYX104K25
	C302	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C306	CERAMIC CAPACITOR	CKCYB152K50
	C307	CERAMIC CAPACITOR	CGCYX473K25
	C308	CERAMIC CAPACITOR	CGCYX103K25
	C309	ELECTR. CAPACITOR	CEASR47M50
	C351	ELECTROLYTIC CAPACIT	CEAS471M6R3
	C353	CERAMIC CAPACITOR	CKCYF103Z50
	C397	MYLOR FILM CAPACITOR	CQMA104K50
	C403	CERAMIC CAPACITOR	CCCCH120J50
	C404	CERAMIC CAPACITOR	CCCCH220J50
	C413-416	MYLOR FILM CAPACITOR	CQMA104K50
	C421	MYLOR FILM CAPACITOR	CQMA103K50
	C429, 430	CERAMIC CAPACITOR	CCCCH390J50
	C431, 432	ELECTR. CAPACITOR	CEAS330M16
	C433, 434	ELECTR. CAPACITOR	CEAS220M25
	C435-438	CERAMIC CAPACITOR	CCCCH390J50
	C441, 442	MYLOR FILM CAPACITOR	CQMA152J50
	C461	CERAMIC CAPACITOR	CKCYF103Z50
	C52	ELECTR. CAPACITOR	CEAS01M35
	C60	ELECTR. CAPACITOR	CEAS010M50

Mark	No.	Description	Part No.
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RESISTORS

VR102	VR (22kΩ)	RCP1046
VR103	VR (1kΩ)	RCP1044
VR151, 152	VR (22kΩ)	RCP1046
Other resistors		RD1/6PM□□□J

OTHERS

CN101	CONNECTOR	52045-1610
CN351	CONNECTOR	9602S-28C
JA391, 392	JACK/12V (CONTROL IN, OUT)	PKN1004
JA393	JACK (CD DECK SYNCHRO)	PKN1005
JA401	JACK (LINE OUT L, R)	PKB1009
X351	CERAMIC RESONATOR (4.19MHz)	VSS1014
X401	XTAL RES (OSC) (16.9344MHz)	PSS1006

◎ Function Board Assembly (PWZ2103:PD- 6700)

SEMICONDUCTORS

D701-711	DIODE	1SS254
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RESISTOR

R701	CARBON FILM RESISTOR	RD1/6PM471J
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SWITCHES

S701-735	SWITCH PEAK SEARCH, CHECK, CLEAR, PGM, EDIT, RANDOM PLAY, MANUAL SEARCH(<<I, >>I), STOP (□), PLAY (<I), TRACK SEARCH (<<I, >>I), PAUSE (II), TRACK NUMBER (4-20, >20), OPEN/CLOSE (Δ), HI-LITE SCAN, REPEAT, TIME	PSG1006
S737-739	SWITCH (TRACK NUMBER (3, 2, 1))	PSG1006

OTHERS

CN701	REMOTE SENSOR	GPIU50X
	CONNECTOR	9602S-30F
V701	FL INDICATOR TUBE	PEL1051

◎ Function Board Assembly (PWZ2096:PD- 5700)

SEMICONDUCTORS

D701-704	DIODE	1SS254
D708-711	DIODE	1SS254

SWITCHES

S701-713	SWITCH PEAK SEARCH, CHECK, CLEAR, PGM, EDIT, RANDOM PLAY, MANUAL SEARCH(<<I, >>I), STOP (□), PLAY (<I), TRACK SEARCH (<<I, >>I), PAUSE (II)	PSG1006
S724-739	SWITCH OPEN/CLOSE (Δ), HI-LITE SCAN, REPEAT, TIME, TRACK NUMBER (1-10, +10, >20)	PSG1006

Mark	No.	Description	Part No.
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RESISTOR

R701	CARBON FILM RESISTOR	RD1/6PM471J
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OTHERS

CN701	REMOTE SENSOR	GPIU50X
	CONNECTOR	9602S-30F
V701	FL INDICATOR TUBE	PEL1051

◎ Function Board Assembly (PWZ2094:PD- 4700)

SEMICONDUCTORS

D701-704	DIODE	1SS254
D708-711	DIODE	1SS254

SWITCHES

S701-713	SWITCH PEAK SEARCH, CHECK, CLEAR, PGM, EDIT, RANDOM PLAY, MANUAL SEARCH(<<I, >>I), STOP (□), PLAY (<I), TRACK SEARCH (<<I, >>I), PAUSE (II)	PSG1006
S724-739	SWITCH OPEN/CLOSE (Δ), HI-LITE SCAN, REPEAT, TIME, TRACK NUMBER (1-10, +10, >20)	PSG1006

RESISTOR

R701	CARBON FILM RESISTOR	RD1/6PM471J
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OTHERS

CN701	CONNECTOR	9602S-28F
V701	FL INDICATOR TUBE	PEL1051

9. ADJUSTMENTS

9.1. Adjustment Methods

If a disc player is adjusted incorrectly or inadequately, it may malfunction or not work at all even though there is nothing at all wrong with the pickup or the circuitry. Adjust correctly following the adjustment procedure.

● Adjustment Items/verification items and order

Step	Item	Test point	Adjustment location
1	Focus offset adjustment	TP1, Pin 6(FCS. ERR)	VR103(FCS. OFS)
2	Grating adjustment	TP1, Pin 2(TRK. ERR)	Grating adjustment slit
3	Tracking error balance adjustment	TP1, Pin 2(TRK. ERR)	VR102(TRK. BAL)
4	Pickup radial/tangential direction tilt adjustment	TP1, Pin 1(RF)	Radial tilt adjustment screw, Tangential tilt adjustment screw
5	RF level adjustment	TP1, Pin 1(RF)	VR1(RF level)
6	Focus servo loop gain adjustment	TP1, Pin 5(FCS. IN) TP1, Pin 6(FCS. ERR)	VR152(FCS. GAN)
7	Tracking servo loop gain adjustment	TP1, Pin 3(TRK. IN) TP1, Pin 2(TRK. ERR)	VR151(TRK. GAN)
8	Focus error signal verification	TP1, Pin 6(FCS. ERR)	—————

● Abbreviation table

FCS. ERR	:Focus Error
FCS. OFS	:Focus Offset
TRK. ERR	:Tracking Error
TRK. BAL	:Tracking Balance
FCS. GAN	:Focus Gain
TRK. GAN	:Tracking Gain
FCS. IN	:Focus In
TRK. IN	:Tracking In

● Measuring Instruments and tools

1. Dual trace oscilloscope (10:1 probe)
2. Low-frequency oscillator
3. Test disc (YEDS-7)
4. 12 - cm disc (with at least about 70 minutes recording)
5. Low-pass filter (39 k Ω + 0.001 μ F)
6. Resistor (100 k Ω)
7. Hexagonal wrench (M3 mm)
8. Standard tools

● Test point and adjustment variable resistor positions

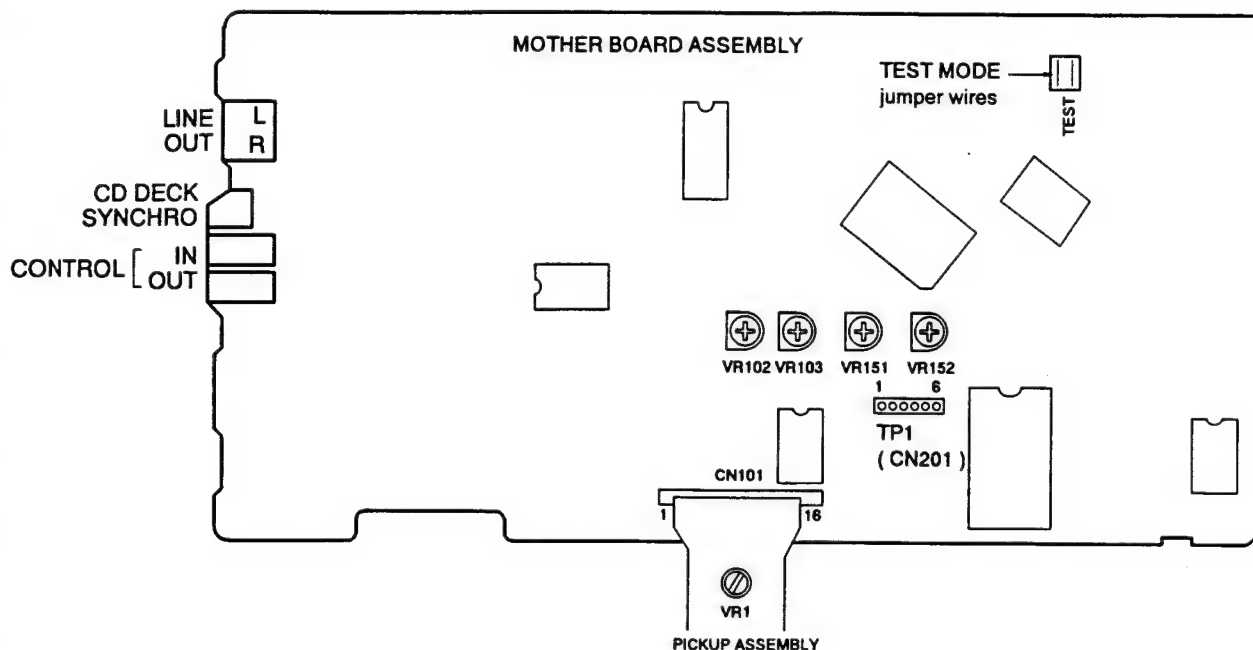


Figure 1 Adjustment Locations

● Notes

1. Use a 10:1 probe for the oscilloscope.
2. All the knob positions (settings) for the oscilloscope in the adjustment procedures are for when a 10:1 probe is used.

● Test mode

These models have a test mode so that the adjustments and checks required for service can be carried out easily. When these models are in test mode, the keys on the front panel work differently from normal. Adjustments and checks can be carried out by operating these keys with the correct procedure. For these models, all adjustments are carried out in test mode.

[Setting these models to test mode]

How to set this model into test mode.

1. Unplug the power cord from the AC socket.
2. Short the test mode jumper wires. (See Figure 1.)
3. Plug the power cord back into the AC socket.

When the test mode is set correctly, the display is different from what it usually is when the power is turned on. If the display is still the same as usual, test mode has not been set correctly, so repeat Steps 1 – 3.

[Release from test mode]

Here is the procedure for releasing the test mode:

1. Press the STOP key and stop all operations.
2. Unplug the power cord from the AC socket.

[Operations of the keys in test mode]

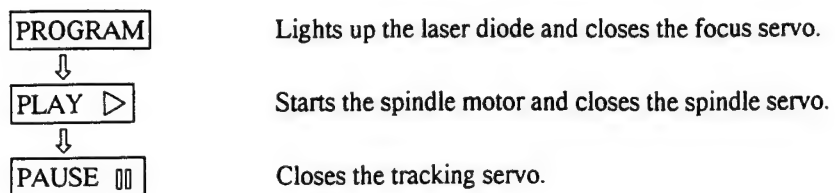
Code	Key name	Function in test mode	Explanation
	PROGRAM	Focus servo close	<p>The laser diode is lit up and the focus actuator is lowered, then raised slowly and the focus servo is closed at the point where the objective lens is focused on the disc.</p> <p>With the player in this state, if you lightly rotate the stopped disc by hand, you can hear the sound the focus servo.</p> <p>If you can hear this sound, the focus servo is operating correctly. If you press this key with no disc mounted, the laser diode lights up, the focus actuator is pulled down, then the actuator is raised and lowered twice and returned to its original position.</p>
▷	PLAY	Spindle servo ON	<p>Starts the spindle motor in the clockwise direction and when the disc rotation reaches the prescribed speed (about 500 rpm at the inner periphery), sets the spindle servo in a closed loop.</p> <p>Be careful. Pressing this key when there is no disc mounted makes the spindle motor run at the maximum speed.</p> <p>If the focus servo does not go correctly into a closed loop or the laser light shines on the mirror section at the outermost periphery of the disc, the same symptom is occurred.</p>
□□	PAUSE	Tracking servo close/open	<p>Pressing this key when the focus servo and spindle servo are operating correctly in closed loops puts the tracking servo into a closed loop, displays the track number being played back and the elapsed time on the front panel, and outputs the playback signal.</p> <p>If the elapsed time is not displayed or not counted correctly or the audio is not played back correctly, it may be that the laser is shining on the section with no sound recorded at the outer edge of the disc, that something is out of adjustment, or that there is some other problem.</p> <p>This key is a toggle key and open/close the tracking servo alternately. This key has no effect if no disc is mounted.</p>

Code	Key name	Function in test mode	Explanation
◀◀	MANUAL SEARCH REV	Carriage reverse (inwards)	Moves the pickup position toward the inner diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation.
▶▶	MANUAL SEARCH FWD	Carriage forward (outwards)	Moves the pickup position toward the outer diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation.
□	STOP	Stop	Switches off all the servos and initialized. The pickup remains where it was when this key was pressed.
△	OPEN/CLOSE	Disc tray open/close	Open/close the disc tray. This key is a toggle key and open/close tray alternately. Pressing this key when the disc is turning stops the disc, then opens the tray. This key operation does not affect the position of the pickup.

[How to play back a disc in test mode]

In test mode, since the servos operate independently, playing back a disc requires that you operate the keys in the correct order to close the servos.

Here is the key operation sequence for playing back a disc in test mode.



Wait at least 2-3 seconds between each of these operations.

1. Focus Offset Adjustment

● Objective	Sets the DC offset for the focus error amp.		
● Symptom when out of adjustment	The model does not focus in and the RF signal is dirty.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 6 (FCS. ERR)	● Player state	Test mode, stopped (just the Power switch on)
	[Settings] 5 mV/division 10 ms/division DC mode	● Adjustment location	VR103 (FCS. OFS)
		● Disc	None needed
<p>[Procedure]</p> <p>Adjust VR103 (FCS. OFS) so that the DC voltage at TP1, Pin 6 (FCS. ERR) is -50 ± 50 mV.</p>			

2. Grating Adjustment

● Objective	To align the tracking error generation laser beam spots to the optimum angle on the track.		
● Symptom when out of adjustment	Play does not start, track search is impossible, tracks are skipped.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 2 (TRK. ERR) via a low pass filter. (See Figure 2)	● Player state	Test mode, focus and spindle servos closed and tracking servo open
	[Settings] 50 mV/division 5 ms/division DC mode	● Adjustment location	Pickup grating adjustment slit
		● Disc	12-cm disc. (YEDS-7 can not be used.)

[Procedure]

1. Move the pickup to the outer edge of the disc with the MANUAL SEARCH FWD $\triangleright\triangleright$ or REV $\triangleleft\triangleleft$ key.
2. Press the PROGRAM key, then the PLAY \triangleright key in that order to close the focus servo then the spindle servo.
3. Insert an ordinary screwdriver into the grating adjustment slit and adjust the grating to find the null point. For more details, see the next page.
4. If you slowly turn the screwdriver counterclockwise from the null point, the amplitude of the wave gradually increases, then if you continue turning the screwdriver, the amplitude of the wave becomes smaller again. Turn the screwdriver counterclockwise from the null point and set the grating to the first point where the wave amplitude reaches its maximum.

Reference : Figure 3 shows the relation between the angle of the tracking beam with the track and the waveform.

Note : The amplitude of the tracking error signal is about 3 Vp-p (when a $39\text{ k}\Omega + 0.001\text{ }\mu\text{F}$ low pass filter is used). If this amplitude is extremely small (2 Vp-p or less), the objective lens or the pickup malfunction may be the cause. If the difference between the amplitude of the error signal at the innermost edge and outermost edge of the disc is more than 10%, the grating is not adjusted to the optimum point, so adjust it again.

5. Return the pickup to more or less midway across the disc with the MANUAL SEARCH REV $\triangleleft\triangleleft$ key, press the PAUSE $\square\square$ key and double check that the track number and elapsed time are displayed on the front panel. If they are not displayed at this time or the elapsed time changes irregularly, double check the null point and adjust the grating again.

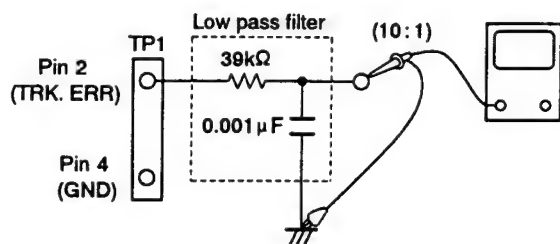
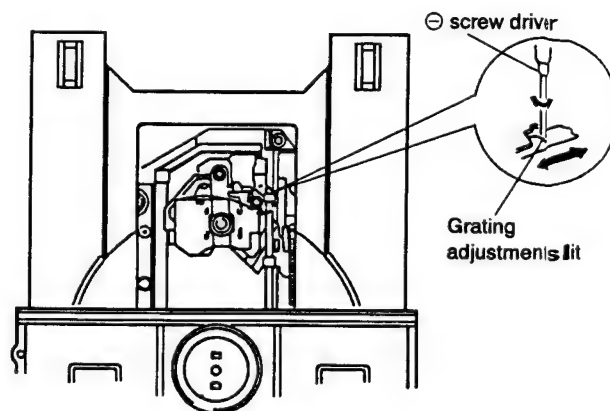


Figure 2



Adjustment locations

[How to find the null point]

When you insert the regular screwdriver into the slit for the grating adjustment and change the grating angle, the amplitude of the tracking error signal at TP1, Pin 2 changes. Within the range for the grating, there are five or six locations where the amplitude of the wave reaches a minimum. Of these five or six locations, there is only one at which the envelope of the waveform is smooth. This location is where the three laser beams divided by the grating are all right above the same track. (See Figure 3.)

This point is called the null point. When adjusting the grating, this null point is found and used as the reference position.

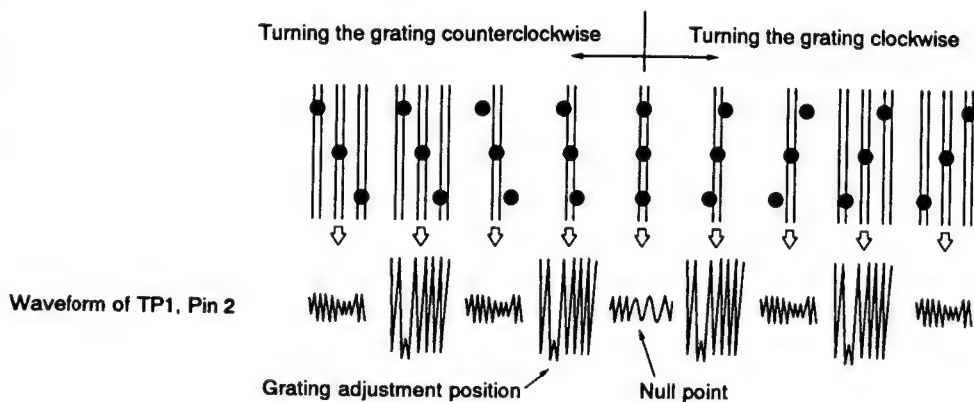
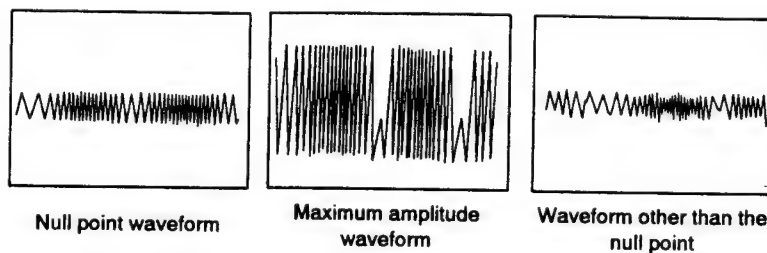


Figure 3

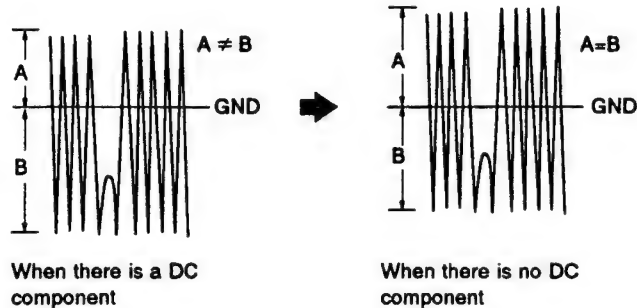


3. Tracking Error Balance Adjustment

● Objective	To correct for the variation in the sensitivity of the tracking photodiode.		
● Symptom when out of adjustment	Play does not start or track search is impossible.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 2 (TRK. ERR). This connection may be via a low pass filter.	● Player state	Test mode, focus and spindle servos closed and tracking servo open
	[Settings] 50 mV/division 5 ms/division DC mode	● Adjustment location	VR102 (TRK. BAL)
		● Disc	YEDS-7

[Procedure]

1. Move the pickup to midway across the disc (R=35 mm) with the MANUAL SEARCH FWD $\triangleright\triangleright$ or REV $\triangleleft\triangleleft$ key.
2. Press the PROGRAM key, then the PLAY \triangleright key in that order to close the focus servo then the spindle servo.
3. Line up the bright line (ground) at the center of the oscilloscope screen and put the oscilloscope into DC mode.
4. Adjust VR102 (TRK. BAL) so that the positive amplitude and negative amplitude of the tracking error signal at TP1, Pin 2 (TRK. ERR) are the same (in other words, so that there is no DC component).



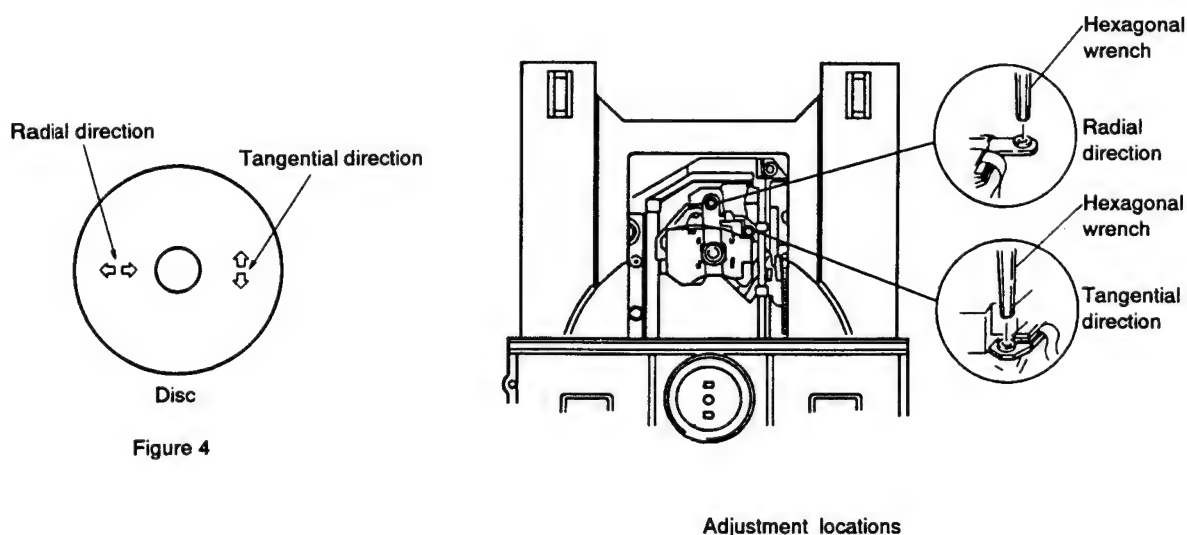
4. Pickup Radial/Tangential Tilt Adjustment

● Objective	To adjust the angle of the pickup relative to the disc so that the laser beams are shone straight down into the disc for the best read out of the RF signals.		
● Symptom when out of adjustment	Sound broken; some discs can be played but not others.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 1 (RF). [Settings] 20 mV/division 200 ns/division AC mode	● Player state ● Adjustment location ● Disc	Test mode, play Pickup radial tilt adjustment screw and tangential tilt adjustment screw 12- cm disc. (YEDS-7 can not be used.)

[Procedure]

1. Press the MANUAL SEARCH FWD ►► or REV ◄◄ key so that the radial / tangential tilt screws can be adjusted. Press the PROGRAM key, the PLAY ► key, then the PAUSE || key in that order to close the focus servo then the spindle servo and put the player into play mode.
2. First, adjust the radial tilt adjustment screw with an M3-mm hexagonal wrench so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly.
3. Next, adjust the tangential tilt adjustment screw with an M3-mm hexagonal wrench so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly (Figure 5).
4. Adjust the radial tilt adjustment screw and the tangential tilt adjustment screw again so that the eye pattern can be seen the most clearly. As necessary, adjust the two screws alternately so that the eye pattern can be seen the most clearly.

Note: Radial and tangential mean the directions relative to the disc shown in Figure 4.



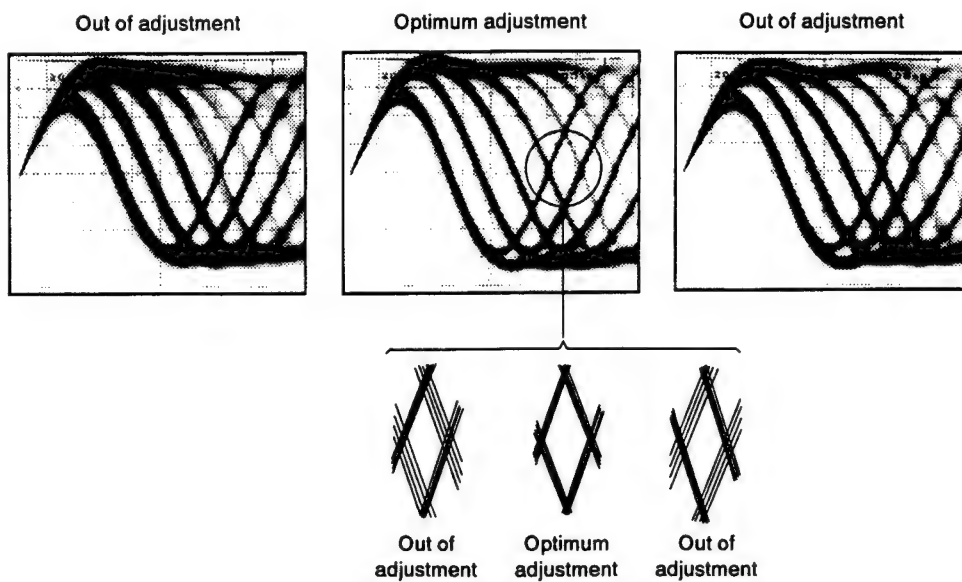


Figure 5 Eye pattern

5. RF Level Adjustment

● Objective	To optimize the playback RF signal amplitude		
● Symptom when out of adjustment	No play or no search		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 1 (RF).	● Player state	Test mode, play
	[Settings] 50 mV/division 10 ms/division AC mode	● Adjustment location	VR1 (laser power)
		● Disc	YEDS-7

[Procedure]

1. Move the pickup to midway across the disc (R=35 mm) with the MANUAL SEARCH FWD ▷▷ or REV ◁◁ key, then press the PROGRAM key, then the PLAY ▷ key in that order to close the respective servos and put the player into play mode.
2. Adjust VR1 (laser power) so that the RF signal amplitude is $1.2 \text{ V}_{p-p} \pm 0.1 \text{ V}$.

6. Focus Servo Loop Gain Adjustment

● Objective	To optimize the focus servo loop gain.		
● Symptom when out of adjustment	Playback does not start or focus actuator noisy.		
● Measurement instrument connections	See figure 6.	● Player state	Test mode, play
	[Settings]	● Adjustment location	VR152 (FCS. GAN)
	CH1 CH2 20 mV/division 5 mV/division X-Y mode	● Disc	YEDS-7

[Procedure]

1. Set the AF generator output to 1.2 kHz and 1 Vp-p.
2. Press the MANUAL SEARCH FWD $\triangleright\triangleright$ or REV $\triangleleft\triangleleft$ key to move the pickup to halfway across the disc (R=35 mm), then press the PROGRAM key, the PLAY \triangleright key, then the PAUSE $\square\square$ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR152 (FCS. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

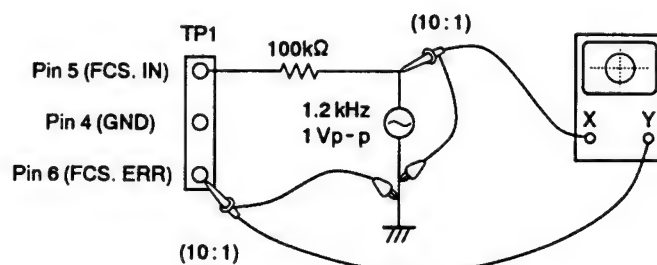
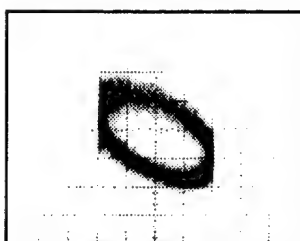


Figure 6

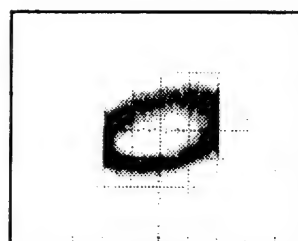
Focus Gain Adjustment



Higher gain



Optimum gain



Lower gain

7. Tracking Servo Loop Gain Adjustment

● Objective	To optimize the tracking servo loop gain.		
● Symptom when out of adjustment	Playback does not start, during searches the actuator is noisy, or tracks are skipped.		
● Measurement instrument connections	See Figure 7.	● Player state	Test mode, play
	[Settings] CH1 CH2 50 mV/division 50 mV/division X-Y mode	● Adjustment location VR151 (TRK. GAN) ● Disc YEDS-7	

[Procedure]

1. Set the AF generator output to 1.2 kHz and 2 Vp-p.
2. Press the MANUAL SEARCH FWD $\triangleright\triangleright$ or REV $\triangleleft\triangleleft$ key to move the pickup to halfway across the disc (R=35 mm), then press the PROGRAM key, the PLAY \triangleright key, then the PAUSE $\square\square$ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR151 (TRK. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

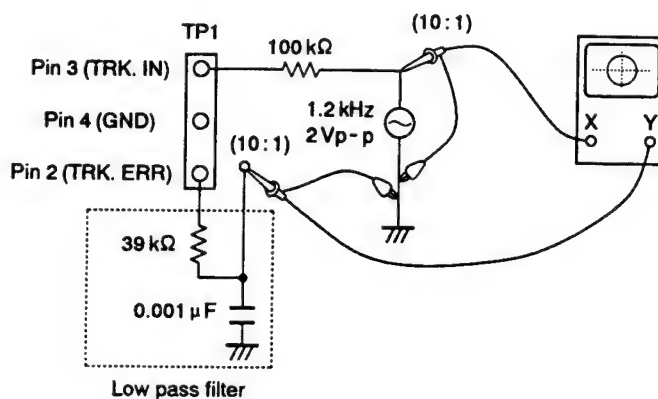


Figure 7

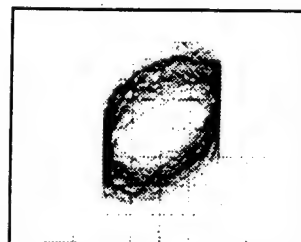
Tracking Gain Adjustment



Higher gain



Optimum gain



Lower gain

8. Focus Error Signal (Focus S Curve) Verification

<ul style="list-style-type: none"> ● Objective 	To judge whether the pickup is ok or not by observing the focus error signal. The pickup is judged from the amplitude of the tracking error signal (as discussed in the section on adjusting the tracking error balance) and the waveform for the focus error signal.		
<ul style="list-style-type: none"> ● Symptom when out of adjustment 			
<ul style="list-style-type: none"> ● Measurement instrument connections 	Connect the oscilloscope to TPI, Pin 6 (FCS. ERR). [Settings] 100 mV/division 5 ms/division DC mode	<ul style="list-style-type: none"> ● Player state 	Test mode, stop
		<ul style="list-style-type: none"> ● Adjustment location 	None
		<ul style="list-style-type: none"> ● Disc 	YEDS-7

[Procedure]

1. Connect TPI Pin 5 to ground.
2. Mount the disc.
3. While watching the oscilloscope screen, press the PROGRAM key and observe the waveform in Figure 8 for a moment. Verify that the amplitude is at least 2.5 Vp-p and that the positive and negative amplitude are about equal. Since the waveform is only output for a moment when the PROGRAM key is pressed, press this key over and over until you have checked the waveform.

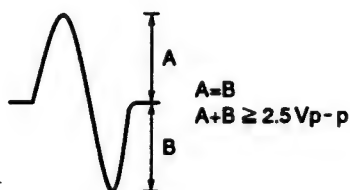


Figure 8

[Judging the pickup]

Do not judge the pickup until all the adjustments have been made correctly. In the following cases, there may be something wrong with the pickup.

1. The tracking error signal amplitude is extremely small (less than 2 Vp-p).
2. The focus error signal amplitude is extremely small (less than 2.5 Vp-p).
3. The positive and negative amplitudes of the focus error signal are extremely asymmetrical (2 : 1 ratio or more).
4. The RF signal is too small (less than 0.8 Vp-p) and even if VR1 (laser power) is adjusted, the RF signal can not be brought up to the standard level.

10. FOR PD- 6700/KC, KUXJ, KCXJ, PD- 5700/KC, KUXJ, KCXJ, PD- 4700/KC, KUXJ AND KCXJ TYPES

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

10.1 FOR PD- 6700/KC, KUXJ AND KCXJ TYPES

CONTRAST OF MISCELLANEOUS PARTS

The PD- 6700/KC, KUXJ and KCXJ types are the same as the PD- 6700/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		KU type	KC type	KUXJ type	KCXJ type	
	CD packing case Bonnet Operating instructions(English) Operating instructions (English/French)	PHG1700 PYY1147 PRB1138	PHG1700 PYY1147 PRE1141	PHG1627 PYY1129 PRB1138	PHG1628 PYY1129 PRE1141	For packing

Note: As to the SCHEMATIC DIAGRAM and P. C. BOARDS CONNECTION DIAGRAM of the KC, KUXJ and KCXJ types, refer to those of the KU type.

10.2 FOR PD- 5700/KC, KUXJ AND KCXJ TYPES

CONTRAST OF MISCELLANEOUS PARTS

The PD- 5700/KC, KUXJ and KCXJ types are the same as the PD- 5700/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		KU type	KC type	KUXJ type	KCXJ type	
	CD packing case Bonnet Operating instructions(English) Operating instructions (English/French)	PHG1699 PYY1147 PRB1138	PHG1699 PYY1147 PRE1141	PHG1622 PYY1129 PRB1138	PHG1625 PYY1129 PRE1141	For packing

Note: As to the SCHEMATIC DIAGRAM and P. C. BOARDS CONNECTION DIAGRAM of the KC, KUXJ and KCXJ types, refer to those of the KU type.

10.3 FOR PD- 4700/KC, KUXJ AND KCXJ TYPES

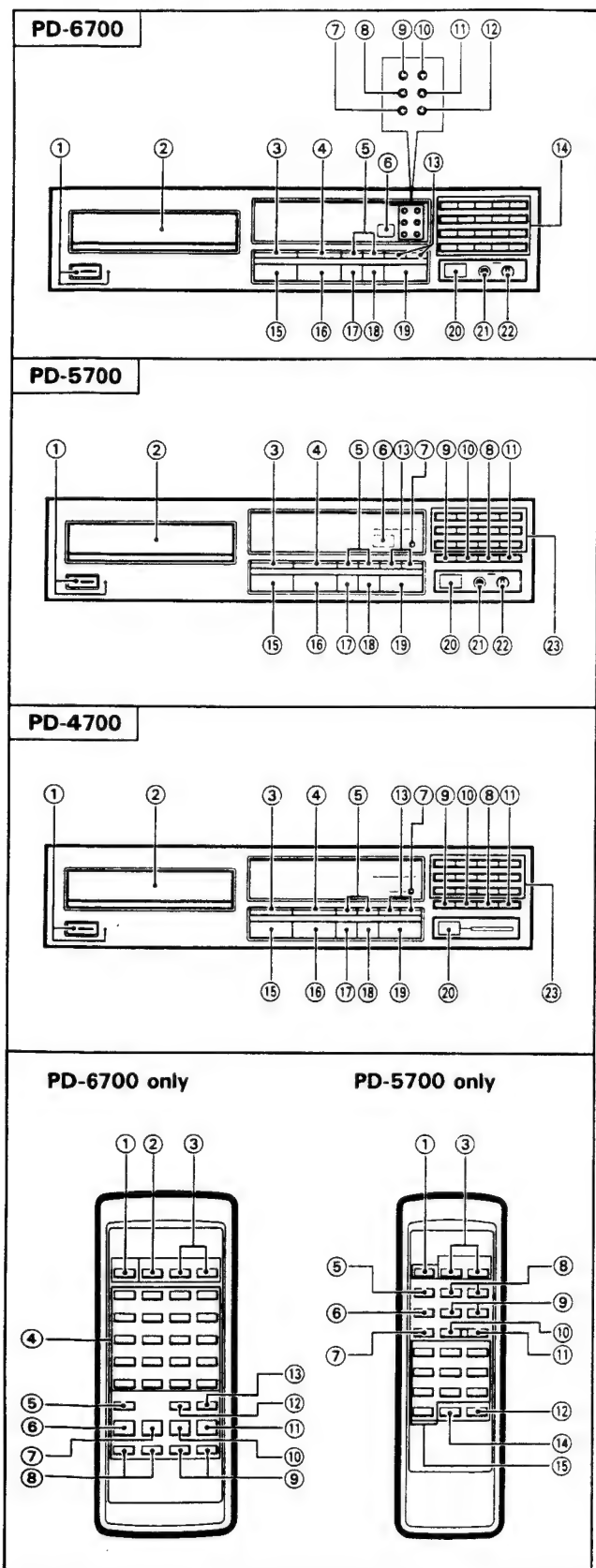
CONTRAST OF MISCELLANEOUS PARTS

The PD - 4700/KC, KUXJ and KCXJ types are the same as the PD - 4700/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		KU type	KC type	KUXJ type	KCXJ type	
	CD packing case	PHG1698	PHG1698	PHG1617	PHG1619	For packing
	Bonnet	PYY1147	PYY1147	PYY1129	PYY1129	
	Operating instructions(English)	PRB1138	.....	PRB1138	.....
	Operating instructions (English/French)	.....	PRE1141	.....	PRE1141

Note: As to the SCHEMATIC DIAGRAM and P. C. BOARDS CONNECTION DIAGRAM of the KC, KUXJ and KCXJ types, refer to those of the KU type.

11. PANEL FACILITIES



FRONT PANEL

- ① POWER STANDBY/ON switch and indicator
- ② Disc tray
- ③ REPEAT button
- ④ HI-LITE SCAN button
- ⑤ MANUAL SEARCH (MANUAL) buttons (◀◀, ▶▶)
- ⑥ Remote sensor
- ⑦ TIME button
- ⑧ CHECK button
- ⑨ Program edit button (EDIT) (■ COMPU/■ AUTO)
- ⑩ Program button (PGM)
- ⑪ CLEAR button
- ⑫ > 20 button
- ⑬ TRACK SEARCH (TRACK) buttons (◀◀, ▶▶)
- ⑭ TRACK NUMBER buttons (1–20)
- ⑮ OPEN/CLOSE button (▲)
- ⑯ RANDOM PLAY button
- ⑰ STOP button (■)
- ⑱ PAUSE button (■)
- ⑲ PLAY button (▶)
- ⑳ PEAK SEARCH button
- ㉑ Headphones jack (PHONES)
- ㉒ Headphones volume control (PHONES LEVEL)
- ㉓ TRACK NUMBER buttons (1–10, +10, >20)

NOTE:

Items ㉑ and ㉒ are included on the U.K. and European models of the PD-4700.

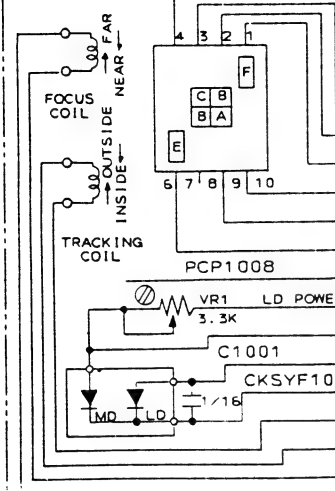
REMOTE CONTROL UNIT

Buttons listed here but not accompanied with explanations have the same functions as the corresponding front panel buttons.

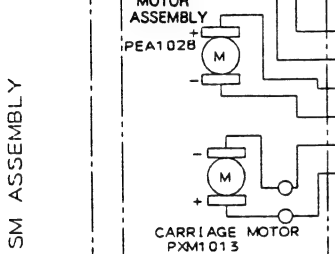
- ① POWER button
- ② OPEN/CLOSE button
- ③ OUTPUT LEVEL buttons (–, +)
- ④ Track number buttons (1–20)
- ⑤ Hi-lite scan button (HI-LITE SCAN)
- ⑥ RANDOM PLAY button
- ⑦ STOP/clear button (■)
- ⑧ Manual search buttons (MANUAL ◀◀, ▶▶)
- ⑨ Track search buttons (TRACK ◀◀, ▶▶)
- ⑩ PAUSE button (■)
- ⑪ PLAY button (▶)
- ⑫ Program button (PROGRAM/PGM)
- ⑬ > 20 button
- ⑭ > 10 button
- ⑮ Track number buttons (1–10)

SERVO MECHANISM ASSEMBLY

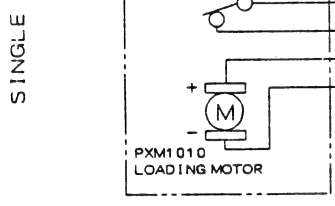
PICKUP ASSEMBLY
PEA1030



INSIDE SW DSG1014



CLAMP SW DSK1003



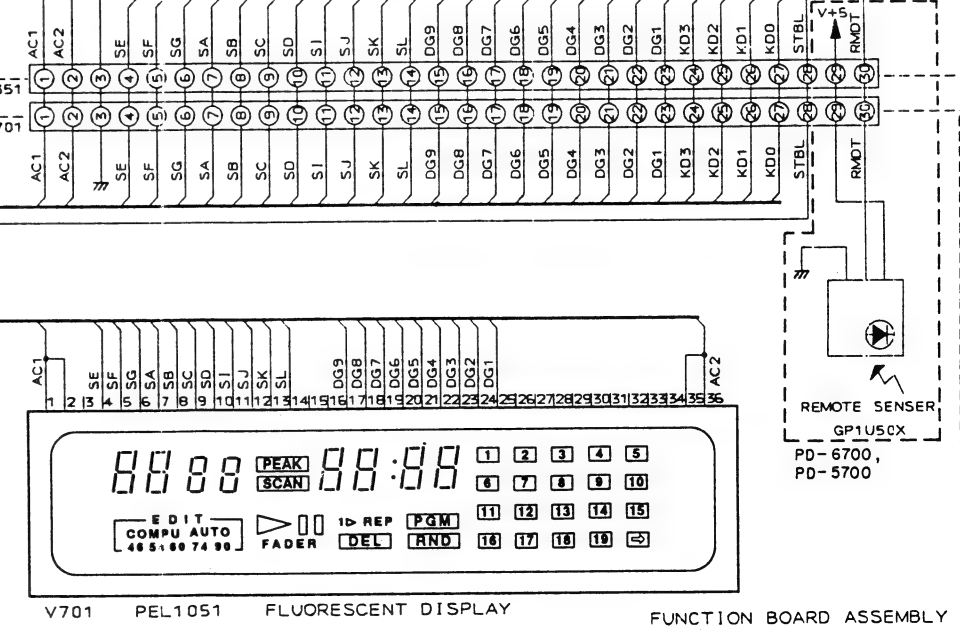
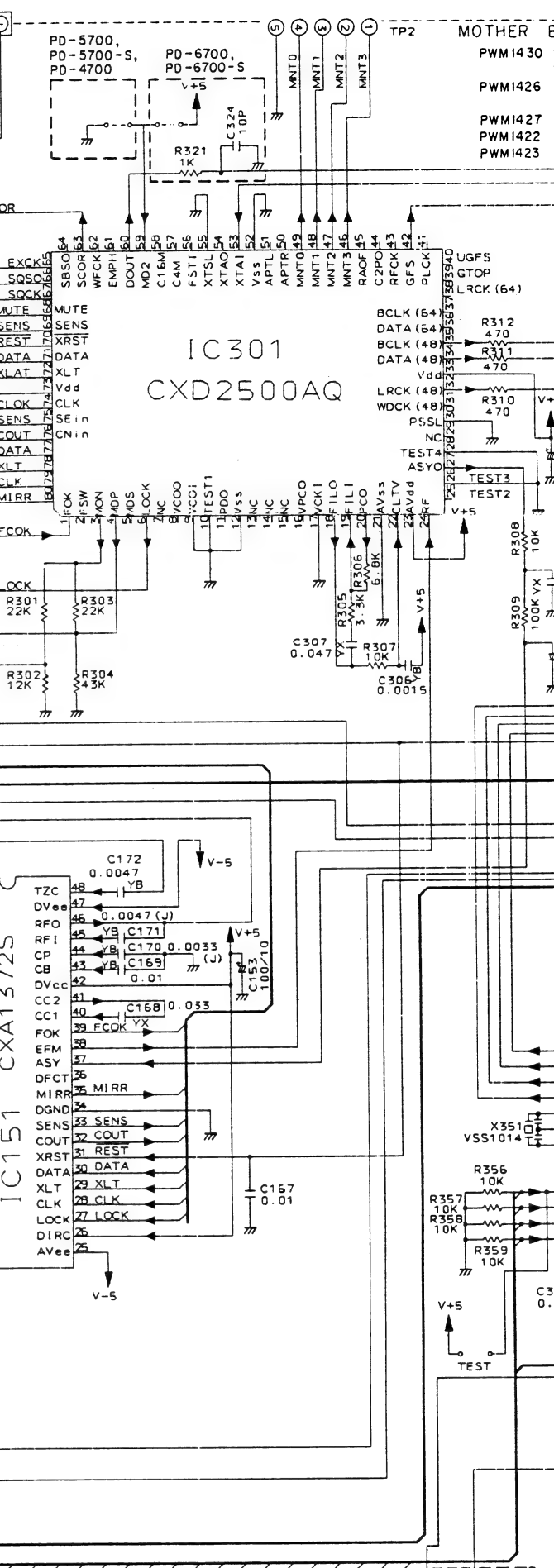
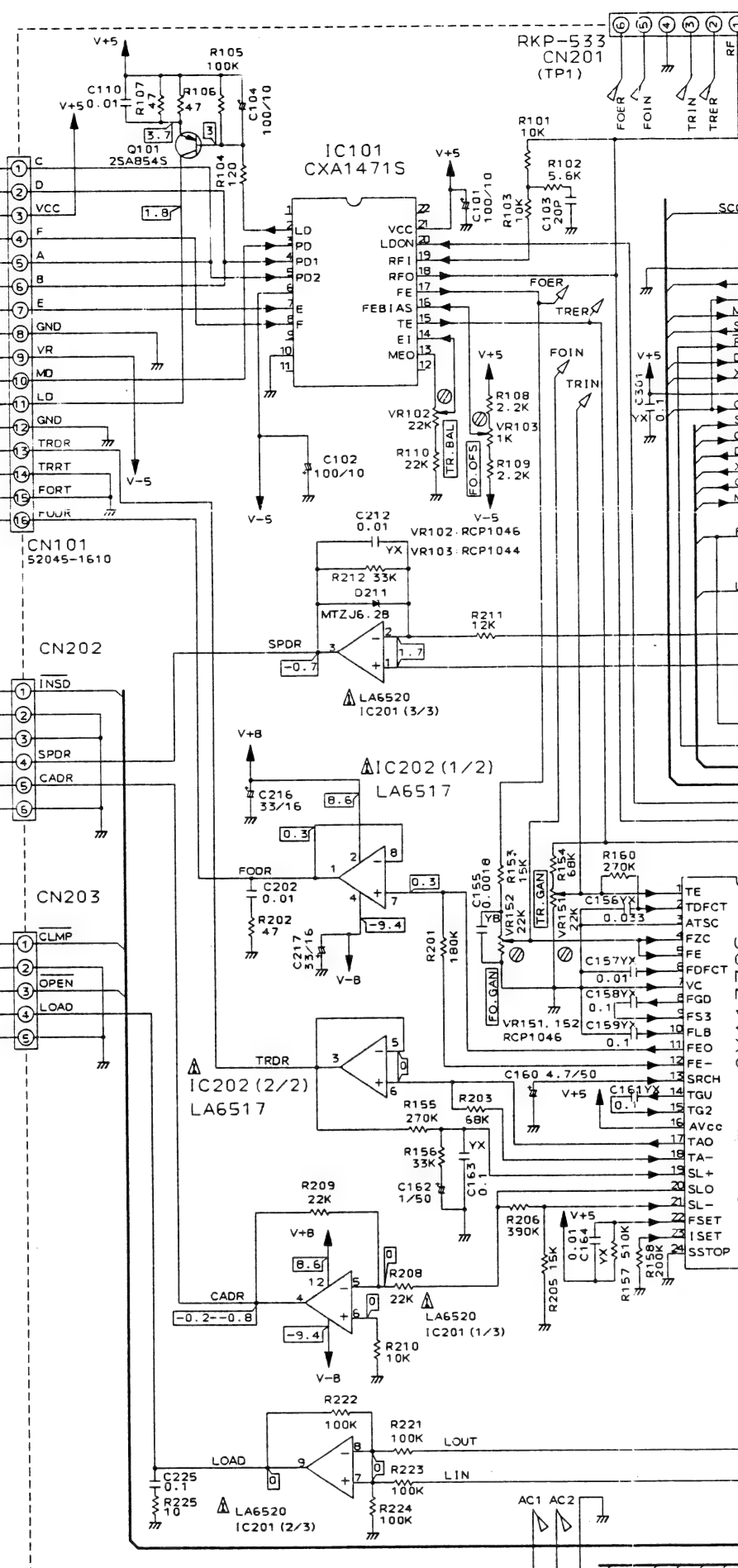
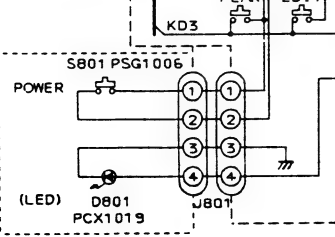
NOTE

RESISTORS
1/6W Type
Rating identified where used

CAPACITORS
(1) M. Mylar CGMA
(2) YB. Ceramic CKCYB
(3) CH. Ceramic CCCCH
(4) YX. Ceramic CGCYX
(5) Unmarked type CKCYF

OTHERS
+ CHASSIS GROUND
ABC LOW ACTIVE SIGNAL

SWITCH BOARD ASSEMBLY



PW22094 PD-4700
PW22096 PD-5700
PW22103 PD-6700

MOTHER BOARD ASSEMBLIES (PWM1426 and PWM1427)

The mother board assemblies (PWM1426 and PWM1427) are the same as the mother board assembly (PWM1425) with the exception of the following parts.

Mark	Symbol & Description	Part No.			Remarks
		PWM1425	PWM1426	PWM1427	
△	IC31 D391-D394 C29 C393 C415,C416 C433,C434 C441,C442 R391 R392 JA391, JA392 JACK (CONTROL IN, OUT)	..... 1SS254 CEAS471M6R3 CCCSL101J50 CQMA104K50 CEAS220M25 CQMA152J50 RD1/6PM244J RD1/6PM102J PKN1004	ICP-N10 CEAS102M16 CFTXA104J50 CEAS220M50 CQSA152J50 ..... ..... .....	..... ..... CEAS471M6R3 CQMA104K50 CEAS220M50 CQMA152J50	

2.3 FOR PD-4700/MEMXJ, UBXJ, SD AND UPW TYPES

The PD-4700/MEMXJ, UBXJ, SD and UPW types are the same as the PD-4700/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.					Remarks
		PD-4700 /KU type	PD-4700 /MEMXJ type	PD-4700 /UBXJ type	PD-4700 /SD type	PD-4700 /UPW type	
●	Mother board assembly	PWM1421	PWM1422	PWM1422	PWM1423	PWM1421	For packing
	Headphone board assembly	.....	Non supply	Non supply	.....	.....
△	Power transformer (AC120V)	PTT1187	.....	.....	.....	.....
△	Power transformer (AC220V-230V, 230V-240V)	.....	PTT1188	PTT1189	.....	PTT1189
△	Power transformer (AC110V, 120-127V, 220-230V, 230-240V)	.....	.....	.....	PTT1190	.....
△	Line voltage selector (AC110V, 120-127V, 220-230V, 230-240V)	.....	.....	.....	PSB1002	.....
△	AC power cord	PDG1040	PDG1003	PDG1037	PDG1013	PDG1006	
△	Strain relief	CM-22	CM-22B	CM-22B	CM-22B	CM-22B	
	Headphone knob	.....	PAC1370	PAC1370	.....	.....
	Display window AK	PAM1462	.....	.....	PAM1462	PAM1462
	Display window AH	.....	PAM1492	PAM1492	.....	.....
	Function panel assembly	PEA1139	PEA1144	PEA1144	PEA1139	PEA1139	
	CD packing case	PHG1698	PHG1619	PHG1619	PHG1618	PHG1618	
	Stopper	.....	PNM1070	PNM1070	.....	.....
	Insulator	.....	VNK1095	VNK1095	.....	.....
	Leg assembly	PXA1201	.....	.....	PXA1201	PXA1201
	Bonnet	PYY1147	PYY1129	PYY1129	PYY1147	PYY1147	
	Operating instructions (English)	PRB1138	.....	PRB1138	PRB1138	PRB1138
	Operating instructions (Spanish)	.....	.....	.....	PRC1029	.....
	Operating instructions (English/French)	.....	PRE1141	.....	.....	.....
	Operating instructions (German/Italian / Dutch / Swedish / Spanish / Portuguese)	.....	PRF1041	.....	.....	.....

MOTHER BOARD ASSEMBLIES (PWM1422 AND PWM1423)

The mother board assemblies (PWM1422 and PWM1423) are the same as the mother board assembly (PWM1421) with the exception of the following parts.

Mark	Symbol & Description	Part No.			Remarks
		PWM1421	PWM1422	PWM1423	
△	IC31 IC406 Q451,Q452 Q453,Q454 C451,C452 R445,R446 R447,R448,R459-R462 R451,R452 R453,R454,R481,R482 R455,R456 CN401	..... ..... ..... ..... ..... RD1/6PM102J	ICP-N10 BA15218 DTA124ES 2SB1296 CEAS4R7M50 RD1/6PM271J RD1/6PM471J RD1/6PM473J RD1/6PM470J RD1/6PM102J 52147-0310	..... ..... ..... ..... ..... RD1/6PM102J	

HEADPHONE BOARD ASSEMBLY

The headphone board assembly of the PD-4700/MEMXJ and UBXJ types are the same as the PD-6700 and PD-5700 series for the service supply parts.

1. RESISTORS:
Indicated in Ω, 1/4W, 1%
M; M Ω, (F); ± 1%, (G)
2. CAPACITORS:
Indicated in capacity (pF)
voltage is 50V except el
3. VOLTAGE, CURRENT:
□ :DC voltage
mA :DC current
Value in ()
4. OTHERS:
⇒ :Signal route.
⊗ :Adjusting point.
The △ mark found on
factor of the part. Th
designation.
* marked capacitors ar
- This is the basic sc
improvements in design
5. SWITCHES: (The unde
SWITCH BOARD ASSE
S801: POWER ON
FUNCTION BOARD AS
(PD-6700, PD-6700-
S701: PEAK SEARCH
S702: CHECK
S703: CLEAR
S704: PGM
S705: EDIT
S706: RANDOM PL
S707: ▷▷] MAN
S708: ◀◀] MAN
S709: STOP(□)
S710: PLAY(▷)
S711: ▷▷] TR
S712: ◀◀] TR
S713: PAUSE(⏸)
S714: 17
S715: 18
S716: 19
S717: 20
S718: 14
S719: 15
S720: 16
S721: 11
S722: 12
S723: 13
S724: OPEN/CLOS
S725: HI - LITE SC
S726: REPEAT
S727: TIME
S728: 10
S729: 9
S730: 8
S731: 7
S732: >20
S733: 6
S734: 5
S735: 4
S737: 3
S738: 2
S739: 1

1427)

the same as the mother board assembly (PWM1425) with the

Part No.			Remarks
PWM1425	PWM1426	PWM1427	
..... S254 71M6R3 101J50 104K50	ICP-N10 CEAS102M16 CFTXA104J50	..... ..... CEAS471M6R3 CQMA104K50	
220M25 152J50 PM244J PM102J 1004	CEAS220M50 CQSA152J50	CEAS220M50 CQMA152J50	

PW TYPES

the same as the PD-4700/KU type with the exception of the

Part No.				Remarks
PD-4700 MEMXJ type	PD-4700 /UBXJ type	PD-4700 /SD type	PD-4700 /UPW type	
PWM1422 Non supply PTT1188	PWM1422 Non supply PTT1189	PWM1423 PTT1190	PWM1421 PTT1189	
.....	.....	PTT1190	.....
.....	.....	PSB1002	.....
PDG1003 CM-22B PAC1370 PAM1492	PDG1037 CM-22B PAC1370 PAM1492	PDG1013 CM-22B PAM1462	PDG1006 CM-22B PAM1462	
PEA1144 PHG1619 PNM1070 VNK1095	PEA1144 PHG1619 PNM1070 VNK1095	PEA1139 PHG1618 PXA1201	PEA1139 PHG1618 PXA1201	For packing
PYY1129 PRE1141 PRF1041	PYY1129 PRB1138	PYY1147 PRB1138 PRC1029	PYY1147 PRB1138	

MOTHER BOARD ASSEMBLIES (PWM1422 AND PWM1423)

The mother board assemblies (PWM1422 and PWM1423) are the same as the mother board assembly (PWM1421) with the exception of the following parts.

Mark	Symbol & Description	Part No.			Remarks
		PWM1421	PWM1422	PWM1423	
△	IC31 IC406 Q451,Q452 Q453,Q454 C451,C452	..... ..... ..... ..... .....	ICP-N10 BA15218 DTA124ES 2SB1296 CEAS4R7M50	..... ..... ..... ..... .....
	R445,R446 R447,R448,R459-R462 R451,R452 R453,R454,R481,R482 R455,R456	RD1/6PM102J	RD1/6PM271J RD1/6PM471J RD1/6PM473J RD1/6PM470J RD1/6PM102J	RD1/6PM102J	
	CN401	.....	52147-0310	.....

HEADPHONE BOARD ASSEMBLY

The headphone board assembly of the PD-4700/MEMXJ and UBXJ types are the same as the PD-6700 and PD-5700 series for the service supply parts.

2.4 SCHEMATIC DIAGRAM

1. RESISTORS :
Indicated in Ω , 1/4W, 1/6W and 1/8W, ± 5% tolerance unless otherwise noted k;k Ω ,
M;M Ω , (F); ± 1%, (G); ± 2%, (K); ± 10%, (M); ± 20% tolerance.

2. CAPACITORS :
Indicated in capacity(μF)/voltage(V)unless otherwise noted p;pF. Indication without
voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT :
□ :DC voltage(V)at play state.
⊖ mA :DC current at play state.
Value in() is DC current at stop state.

4. OTHERS :
⇒ :Signal route.
⊗ :Adjusting point.
The △ mark found on some component parts indicates the importance of the safety
factor of the part. Therefore, when replacing, be sure to use parts of identical
designation.
※ marked capacitors and resislors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to
improvements in design.

5. SWITCHES : (The underlined indicates the switch position)

SWITCH BOARD ASSEMBLY S801 : POWER ON—OFF	FUNCTION BOARD ASSEMBLY (PD-6700, PD-6700-S TYPES)	FUNCTION BOARD ASSEMBLY (PD-5700, PD-5700-S AND PD4700 TYPES)
	S701 : PEAK SEARCH S702 : CHECK S703 : CLEAR S704 : PGM S705 : EDIT S706 : RANDOM PLAY S707 : ▷▷] MANUAL SEARCH S708 : ◁◁] S709 : STOP(□) S710 : PLAY(▷) S711 : ▷◁] TRACK SEARCH S712 : ◁◁] S713 : PAUSE(□□) S714 : 17 S715 : 18 S716 : 19 S717 : 20 S718 : 14 S719 : 15 S720 : 16 S721 : 11 S722 : 12 S723 : 13 S724 : OPEN/CLOSE(△) S725 : HI - LITE SCAN S726 : REPEAT S727 : TIME S728 : 10 S729 : 9 S730 : 8 S731 : 7 S732 : >20 S733 : 6 S734 : 5 S735 : 4 S736 : +10 S737 : 3 S738 : 2 S739 : 1	S701 : PEAK SEARCH S702 : CHECK S703 : CLEAR S704 : PGM S705 : EDIT S706 : RANDOM PLAY S707 : ▷▷] MANUAL SEARCH S708 : ◁◁] S709 : STOP(□) S710 : PLAY(▷) S711 : ▷◁] TRACK SEARCH S712 : ◁◁] S713 : PAUSE(□□) S724 : OPEN/CLOSE(△) S725 : HI - LITE SCAN S726 : REPEAT S727 : TIME S728 : 10 S729 : 9 S730 : 8 S731 : 7 S732 : >20 S733 : 6 S734 : 5 S735 : 4 S736 : +10 S737 : 3 S738 : 2 S739 : 1

1. SAFETY INFORMATION

(FOR EUROPEAN MODEL ONLY)

VARO!

AVATTAESSA JA SUOJALUKITUS
 OHITETTAESSA OLET ALTTIINA
 NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.
 ÄLÄ KATSO SÄTEESEEN.

ADVERSEL:

USYNLIG LASERSTRÅLING VED ÅBNING
 NÅR SIKKERHEDSÅFBRYDERE ER UDE AF
 FUNKTION UNDGA UDSÆTTELSE FOR
 STRÅLING.

VARNING!

OSYNLIG LASERSTRÅLNING NÅR DENNA
 DEL ÄR ÖPPNAD OCH SPÄRREN
 ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.



LASER
 Kuva 1
 Lasersäteilyn
 varoituserkki

WARNING!

DEVICE INCLUDES LASER DIODE WHICH
 EMITS INVISIBLE INFRARED RADIATION
 WHICH IS DANGEROUS TO EYES. THERE IS
 A WARNING SIGN ACCORDING TO PICTURE
 1 INSIDE THE DEVICE CLOSE TO THE LASER
 DIODE.



LASER
 Picture 1
 Warning sign for
 laser radiation

IMPORTANT

THIS PIONEER APPARATUS CONTAINS
 LASER OF HIGHER CLASS THAN 1.
 SERVICING OPERATION OF THE APPARATUS
 SHOULD BE DONE BY A SPECIALLY
 INSTRUCTED PERSON.

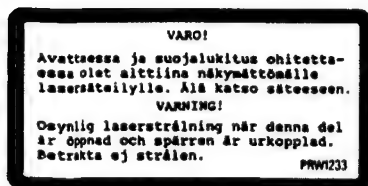
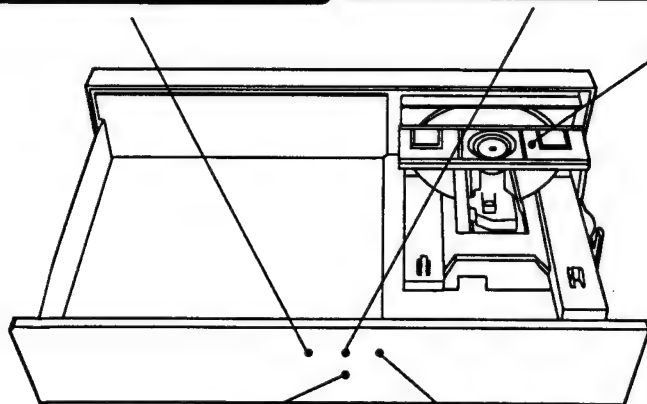
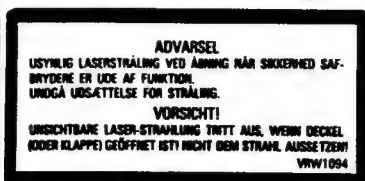
LASER DIODE CHARACTERISTICS
 MAXIMUM OUTPUT POWER: 5 mw
 WAVELENGTH: 780-785 nm

LABEL CHECK (SINGLE type)

UBXJ type

MEMXJ and MEWMXJ types

MEMXJ, MEWMXJ and UBXJ types



MEMXJ and
 MEWMXJ types



MEMXJ, MEWMXJ
 and UBXJ types

Additional Laser Caution

1. Laser Interlock Mechanism

The position of the switch (S601) for detecting loading completion is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S601) is not in CLMP terminal side (when the mechanism is not clamped and CLMP signal is high level).

Thus, the interlock will no longer function if the switch (S601) is deliberately set to CLMP terminal side (if CLMP signal is low level).

In the test mode*, the interlock mechanism will not function.

Laser diode oscillation will continue if pins 2 and 3 of CXA1471S (IC101) are connected to ground or pin 20 is connected to high level (ON) or the terminals of Q101 are shorted to each other (fault condition).

2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 or higher laser beam.

*: Refer to page 32 of the service manual
 (PD-6700, PD-5700, PD-4700), ARP2193.

Service Manual

ORDER NO.
ARP2213

COMPACT DISC PLAYER

PD-6700

MEMXJ,UBXJ

PD-6700-S

MEWMXJ

PD-5700

MEMXJ,UBXJ,SD,UPW

PD-5700-S

MEWMXJ

PD-4700

MEMXJ,UBXJ,SD,UPW

- Refer to the service manual ARP2193, PD-6700, PD-5700, and PD-4700.
- This manual is applicable to the PD-6700/MEMXJ, UBXJ, PD-6700-S/MEWMXJ, PD-5700/MEMXJ, UBXJ, SD, UPW, PD-5700-S/MEWMXJ, PD-4700/MEMXJ, UBXJ, SD and UPW types.

2.2 FOR PD-5700/MEMXJ, UBXJ, SD, UPW AND PD-5700-S/MEWMXJ TYPES

The PD-5700/MEMXJ, UBXJ, SD, UPW and PD-5700-S/MEWMXJ types are the same as the PD-5700/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.						Remarks
		PD-5700 /KU type	PD-5700 /MEMXJ type	PD-5700 /UBXJ type	PD-5700 /SD type	PD-5700 /UPW type	PD-5700-S /MEWMXJ	
●	Mother board assembly	PWM1425	PWM1426	PWM1426	PWM1427	PWM1426	PWM1426	For packing
△	Power transformer (AC120V)	PTT1187	.....	.....	.....	.....	.....
△	Power transformer (AC220V-230V, 230V-240V)	.....	PTT1188	PTT1189	.....	PTT1189	PTT1188
△	Power transformer (AC110V, 120-127V, 220V-230V, 230V-240V)	.....	.....	.....	PTT1190	.....	.....
△	Line voltage selector (AC110V, 120-127V, 220V-230V, 230V-240V)	.....	.....	.....	PSB1002	.....	.....
△	Strain relief	CM-22	CM-22B	CM-22B	CM-22B	CM-22B	CM-22B	
△	AC power cord	PDG1040	PDG1003	PDG1037	PDG1013	PDG1006	PDG1003	
	Connection cord with mini plug	PDE-319	.....	.....	.....	.....	.....
	CD packing case	PHG1699	PHG1625	PHG1625	PHG1623	PHG1623	PHG1626	
	Bonnet	PYY1147	PYY1129	PYY1129	PYY1147	PYY1147	PYY1130	
	Display window BK	PAM1463	.....	.....	PAM1463	PAM1463	.....
	Display window BH	.....	PAM1498	PAM1498	.....	.....	PAM1498
	Stopper	PNM1070	PNM1070	PNM1070	.....	.....	PNM1070
	Insulator	VNK1095	VNK1095	VNK1095	.....	.....	VNK1095
	Leg assembly	.....	.....	.....	PXA1201	PXA1201	.....
	Headphone knob	PAC1370	PAC1370	PAC1370	PAC1370	PAC1370	PAC1402	
	Power button	PAC1540	PAC1540	PAC1540	PAC1540	PAC1540	.....
	Power button S	.....	.....	.....	.....	.....	PAC1580
	Play button B	PAC1542	PAC1542	PAC1542	PAC1542	PAC1542	.....
	Play button BS	.....	.....	.....	.....	.....	PAC1582
	Program button B	PAC1544	PAC1544	PAC1544	PAC1544	PAC1544	.....
	Program button BS	.....	.....	.....	.....	.....	PAC1584
	Headphone name plate S	.....	.....	.....	.....	.....	PAM1500
	Function panel assembly	PEA1140	PEA1140	PEA1140	PEA1140	PEA1140	PEA1145	
	Tray name plate	PNW1900	PNW1900	PNW1900	PNW1900	PNW1900	.....
	Tray name plate S	.....	.....	.....	.....	.....	PNW1984
	Operating instructions (English)	PRB1138	.....	PRB1138	PRB1138	PRB1138	.....
	Operating instructions (Spanish)	.....	.....	.....	PRC1029	.....	.....
	Operating instructions (English/French)	.....	PRE1141	.....	.....	.....	.....
	Operating instructions (German/Italian /Dutch/Swedish /Spanish/Portuguese)	.....	PRF1041	.....	.....	.....	PRF1041

2. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

The PD-6700/MEMXJ, UBXJ and PD-6700-S/MEWMXJ types are the same as the PD-6700/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		PD-6700 /KU type	PD-6700 /MEMXJ type	PD-6700 /UBXJ type	PD-6700-S /MEWMXJ	
⊙	Mother board assembly	PWM1429	PWM1430	PWM1430	PWM1430	For packing
Δ	Power transformer (AC120V)	PTT1187	.....	.....	.....
Δ	Power transformer (AC220V-230V, 230V-240V)	.....	PTT1188	PTT1189	PTT1188
Δ	AC power cord	PDG1015	PDG1003	PDG1037	PDG1003	
Δ	Strain relief	CM-22C	CM-22B	CM-22B	CM-22B	
	CD packing case	PHG1700	PHG1628	PHG1628	PHG1630	
	Connection cord with mini plug	PDE-319	.....	.....	.....
	Bonnet	PYY1147	PYY1129	PYY1129	PYY1130	
	Display window CK	PAM1470	.....	.....	.....
	Display window CH	.....	PAM1499	PAM1499	PAM1499
	Headphone knob	PAC1370	PAC1370	PAC1370	PAC1402	
	Power button	PAC1540	PAC1540	PAC1540	.....
	Power button S	.....	.....	.....	PAC1580
	Play button B	PAC1542	PAC1542	PAC1542	.....
	Play button BS	.....	.....	.....	PAC1582
	Select button	PAC1545	PAC1545	PAC1545	.....
	Select button S	.....	.....	.....	PAC1587
	Function panel assembly	PEA1141	PEA1141	PEA1141	PEA1148	
	Tray name plate	PNW1900	PNW1900	PNW1900	.....
	Tray name plate S	.....	.....	.....	PNW1984
	Headphone name plate S	.....	.....	.....	PAM1500
	Operating instructions (English)	PRB1138	.....	PRB1138	.....
	Operating instructions(English/French)	.....	PRE1141	.....	.....
	Operating instructions(German/Italian / Dutch/Swedish/Spanish/Portuguese)	.....	PRF1041	.....	PRF1041

MOTHER BOARD ASSEMBLY (PWM1430)

The mother board assembly (PWM1430) is the same as the mother board assembly (PWM1429) with the exception of the following parts.

Mark	Symbol & Description	Part No.		Remarks
		PWM1429	PWM1430	
Δ	IC31	ICP-N10	
	IC405	NJM4558D-D	NJM5532DD	
	D391-D394	1SS254	.....
	C393	CCCSL101J50	.....
	R391	RD1/6PM244J	.....
	R392	RD1/6PM102J	.....
	JA391, JA392 JACK(CONTROL IN, OUT)	PKN1004	.....

